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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

MARCH, 1950

Preparing to Blast Out an Oil Well Fire (See Article Elsewhere in This Issue)

A CASE-SHEPPERD-MANN PUBLICATION

It is a wonderful feeling to know you have saved a life

. . . so wrote A. C. Hood, Secretary of the SPARTA, ILLINOIS Fire Dept. . . .

This is just a little "thank you" from the girl you saved at the Country Club this summer.

I want you to know I really appreciate all you did for me.

I want to wish you all the best in the world for Christmas and the coming year.

Member of Illinois Firemen's Association and Egyptian Fire Fighters' Association

SPARTA FIRE DEPARTMENT

P. A. Dickey, Chief
Clarence McMichael, Asst. Chief
Jack McClure, Captain
C. R. Hill, Lieut.

George Stamm, President
Leon Moffat, Vice Pres.
A. C. Hood, Secretary
Harold Adams, Treasurer

SPARTA :: ILLINOIS
Jan. 10, 1950

The J. H. Emerson Co.
Gentlemen,

The inclosed Xmas card to our Dept will be self explanatory, especially when it was done with our Emerson resuscitator. It is a wonderful feelin to know you have saved a life, and a wonderful thing when you get such appreciative notes, as one like this. It was a source of great satisfaction to us, when we brought this young lady back, because we had lost several, and had received some pretty adverse criticis on several cases where we didn't have a ghost of a chance. There was a large crowd at the Club, and no thought we had a chance of bringi back, but we it was a wonderful demonstration on Re citator, and a feather in the caps o squad of our Dept. This one life alone was worth the outfit cost. You may feel a pleas ...tising, or testimonial ...e we wi... ...ept ...od. Se

"This one life alone was worth all the outfit cost."

EMERSON Resuscitators

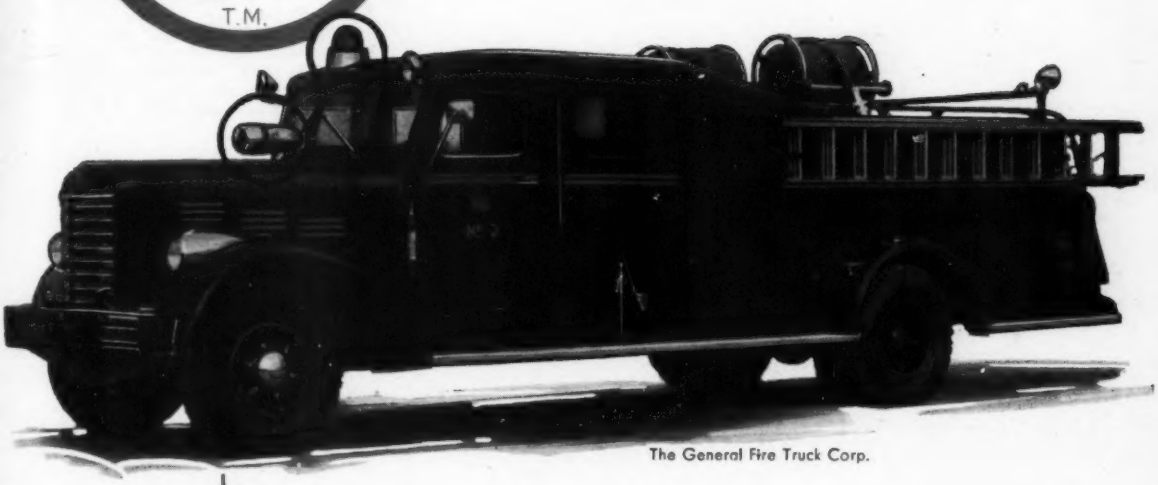
"Simplest and Safest"

J. H. EMERSON CO.

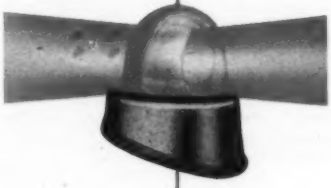
22 COTTAGE PARK AVENUE
CAMBRIDGE 40, MASSACHUSETTS

First for Safety

T.M.



The General Fire Truck Corp.



Specify Federal Beacon Ray Light and you put *safety first!*

Beacon-Ray *first* to give adequate all-around protection, running or parking.

Beacon-Ray *first* to give 360° rotation in a *completely enclosed weatherproof* light.

Beacon-Ray *first* choice for safety and dependability.

Every fire fighter new or old deserves the best protection you can give him—whether he is operating the newest or oldest piece of equipment in the Deparment.

Specify Federal, Federal Beacon Ray Lights and Federal Sirens, first choice for safety always.

FEDERAL ENTERPRISES, INC.

FORMERLY: FEDERAL ELECTRIC COMPANY, INC.

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

Something Lacking?

A FIRE DEPARTMENT had no foam equipment — mechanical or chemical — "because it had no installations of flammable solvents." A highway crash let loose a flood of blazing oil on the town. The department, almost powerless to control the blaze, had to await help from some miles away. Losses were heavy.

● Another department lost a building because its attack on a fire was blocked by unusually heavy smoke conditions. No respiratory protective equipment was at hand.

● Today, hundreds of departments are similarly lacking in some essentials of fire control.

● Why it this? Budget trouble? , , , "Just can't sell the higher ups on the need of improvements?"

● If that's *your* trouble FIRE ENGINEERING can help you. Take this, and back issues. Study them. Pick out the "fire histories" that come close to fitting your own case. Mark these examples. Then see that they get into the hands of the right parties — with your reiterated recommendations.

● FIRE ENGINEERING not only gives you this valuable evidence to support your demands, but its business pages furnish the answers to your question: *"where-to-get-what-you-need."*

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage and Industrial Wastes Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $3.00 a year; Foreign, $4.00; Single copies, 35c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879.

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A CASE-SHEPPERD-MANN PUBLICATION
"Specialized Leadership"

"SNOW STORM" THAT STOPS FIRE!

AER-O-FOAM SNUFFS OUT FIRE
PROTECTS TANKS, BUILDINGS, EQUIPMENT

At the first wave of excess heat down comes a blanket of fire-snuffing AER-O-FOAM over the entire loading area. That's the way the new automatic fire foam system protects Schenectady Varnish Company.

Heat test is applied to heat actuated device at beginning of full scale test

Storage tanks with oils, thinners and other flammable liquids, tank cars and equipment are all automatically covered with a three inch blanket of AER-O-FOAM in one minute. A total depth of 21 inches is possible.

Progressive coverage by foam during test after 1½ minutes

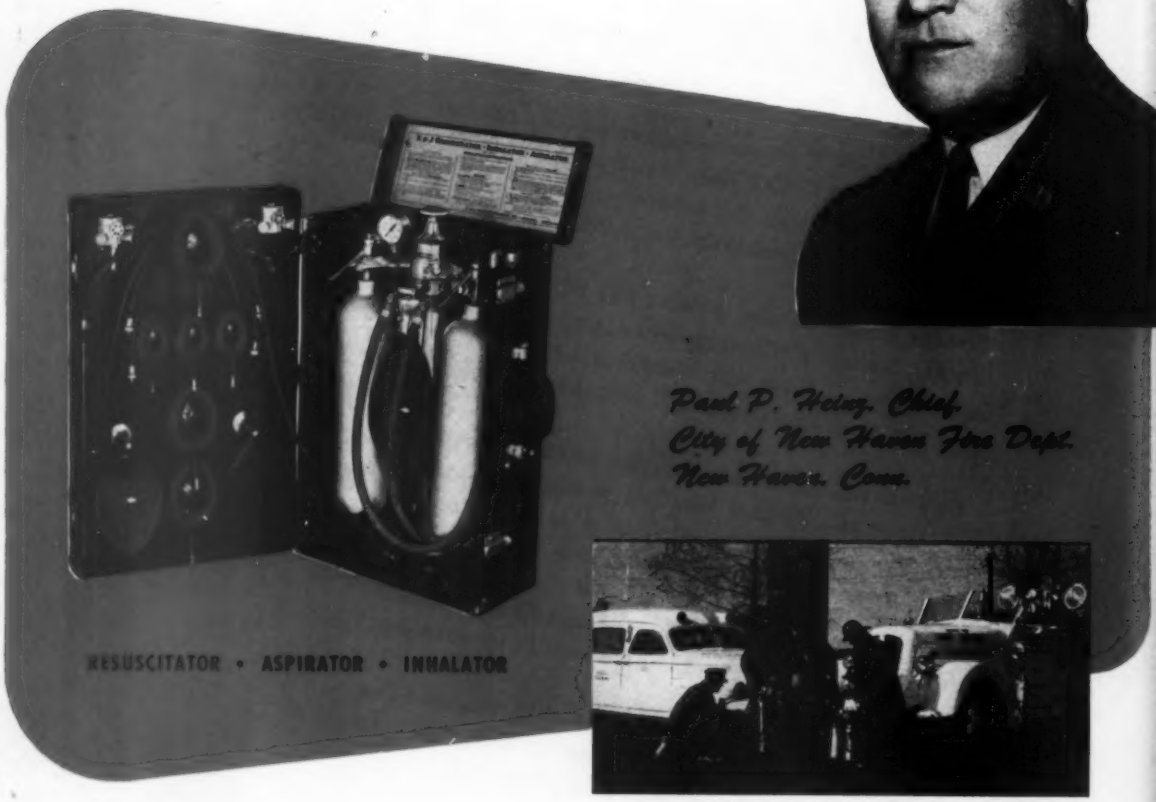
National AER-O-FOAM offers fire-tested protection in all types of industries handling or storing flammable liquids. AER-O-FOAM provides a long-lasting, air-tight blanket of foam which quickly and effectively snuffs out fires and keeps them out . . . prevents flash-backs . . . insulates buildings against heat. It is non-toxic, non-corrosive and easily swept away when dry.

If you have a flammable liquid risk, we have the AER-O-FOAM system to protect it. Fires can't be scheduled . . . let us protect your plant now!

NATIONAL FOAM SYSTEM, INC.
Headquarters for Foam Fire Protection
WEST CHESTER, PENNSYLVANIA

"The ability to render First-Aid is the prime responsibility of every Fire Department today. We in New Haven carry the E & J Resuscitator in our modern, streamlined Surgical Unit and have found it to be most effective."

Paul P. Heisz, Chief,
City of New Haven Fire Dept.
New Haven, Conn.



City of New Haven Rescue Squads shown with Surgical Unit and Emergency Unit and E & J Resuscitators.

" . . we have found the E & J Resuscitator to be most effective."

The reason is simple. *In every possible way* the E & J is automatic, with no time lost making complicated adjustments or pressure selections based on an estimate of the victim's lung size or condition. The E & J *automatically* produces exact positive and negative pressures absolutely safe and correct for adult or tiny infant, *automatically* adjusts volume to any lung size, *automatically* signals if the upper air passages are obstructed, *automatically* signals the moment natural breathing is resumed. There is no chance of confusion or doubt, hence the operator acts surely and swiftly and with greater effectiveness.

See for yourself the complete simplicity, safety and dependability of E & J Resuscitators. A demonstration right in your Department is yours for the asking. So is the fact-filled folder, *Saving Human Lives.* Right now, while you're thinking of it, write for either to E & J, Dept. K-10, at the address shown.

ACCEPTED COUNCIL ON PHYSICAL MEDICINE AMERICAN MEDICAL ASSOCIATION

IS YOUR BUDGET S-T-R-E-T-C-H-E-D?

Let your community *share in the satisfaction* of saving human lives . . . *their* lives, perhaps . . . by obtaining modern E & J Resuscitators for your Department through fund-raising programs.

It's easy when you use the popular E & J money-raising plan that has enabled Departments from coast to coast to be adequately equipped. Write for complete details today, *now!* No obligation, of course.

E & J

E & J MANUFACTURING CO.
Glendale 1, California

B. F. Goodrich announces a new fire hose 50% stronger, 12% lighter

B. F. GOODRICH presents Fire King, a new 2½" double jacket fire hose.

For years engineers have been searching for a stronger, lighter fire hose cord. A new chemically-produced fiber has now been designed—especially for fire hose. Not affected in any way by moisture, mildew, mild acids or alkalies. Used in new Fire King hose as "filler" cords—the cords that go *around* the hose and carry the load under pressure.

Stands higher pressures—In actual laboratory tests, Fire King hose—with the new cord—was found to be 50% stronger than standard hose. Every length of Fire King fire hose is tested to 600 pounds pressure.

Lighter, more flexible—Fire King cord is lighter, more flexible than ordinary fire hose cord, making hose easier to handle and coil in a small diameter. New Fire King hose is 12 to 15% lighter than standard B. F. Goodrich fire hose tested to 400 pounds pressure.

End protection—Fire King has the exclusive B. F. Goodrich end protection—an extra ply of hard woven cords extending 12" from the coupling. Adds 100% more strength to coupling area. Not one single length of B. F. Goodrich fire hose with end protection has ever failed in the coupling area.

Fire King combines all the features available in the highest grade B. F. Goodrich fire hose (Hydroseal treatment, long-aging tubes, patented end protection) with a brand new feature—Fire King reinforcing cord. The result is a premium fire hose 50% stronger, 12 to 15% lighter, yet only slightly higher in cost. $1.70 per foot, double jacket, coupled. Departments looking for ways to lower hose costs by getting hose that lasts longer should write for the name of nearest BFG Fire Hose Distributor. *The B. F. Goodrich Company, Industrial Products Division, Akron, Ohio.*

Fire Hose
BY
B.F.Goodrich

MOTOROLA "RESEARCH" LINE OF F.M. 2-WAY RADIO

chosen again

and again by city after city for superior adjacent channel performance

TYPICAL REPORT: "In compliance with test requirements, Motorola Inc., installed three 250-watt fixed station transmitters (on 155.73 mc.; 155.79 mc.; 155.85 mc.). The Motorola mobile equipment selected the 155.73 mc. station in all conditions with good results. No reception of the adjacent channel station was noted even when the mobile unit was operated in the immediate vicinity of the other transmitter."

CI ILWAUKEE
CITY OF MEMPHIS ROCHESTER
CITY OF VALLEJO, CAL.
LAKE COUNTY ILLINOIS
CITY OF BUFFALO

REPORT (CONTINUED)

"These tests preclude and safeguard us against future possibility of interference from any other transmitters that may be set up."

"Car to car tests exceeded all reasonable demands for car to car operation in emergency services."

"Collectively the tests have proven that Motorola equipment will amply provide for a modern communications system for our fire and police departments, not only at the present but in the future."

"RESEARCH" LINE OF F.M. 2-WAY RADIO with revolutionary new developments engineered at Motorola—the World's largest laboratories devoted exclusively to the development of radio communications systems—specialists in this field for over twenty years.

COMPARE Motorola with any other equipment. Write today for complete details.

protection . . . *of your long-term investment.* PROTECTION *against obsolescence for many years to come.*

Specify Motorola *"Research" Line for permanence in* FM 2-way radio *operation.*

Motorola

Communications & Electronics Division • 4545 W. AUGUSTA BLVD. • CHICAGO 51, ILLINOIS

Kindly mention FIRE ENGINEERING *when writing advertisers*

"The finest fire apparatus in the world ...but can we afford it?"

• Fire chiefs in many parts of the country are still faced with the problem of fighting fires with obsolete or inferior apparatus. According to latest surveys, much of their equipment is over-age, or otherwise ill-fitted to meet the constantly growing burden placed on departments by today's conditions.

Nor is this situation due to lack of foresight on the part of city or town officials. Hampered by the necessity of making the tax dollar go as far as possible, our local governments often feel that they must postpone the purchase of new apparatus until the old can no longer be kept in service.

But now much of the reason for such hazardous chance-taking can be eliminated. For, depending on local ordinances and the financial status of your community, Mack will help finance the purchase of replacements on a deferred yearly payment plan.

It's good business to pay for Macks this way—for *Macks outlast them all!*

There's no finer fire apparatus in the world than Mack. Continually improved for 40 years, Mack apparatus is built with rugged strength to give peak performance under all conditions for many years to come.

When planning your next purchase of equipment, be sure to investigate how easy it may be to buy Macks—and why Macks are your best buy in fire apparatus.

Special note to Fire Chiefs

Compare specifications and service facilities. Mack gives you that extra margin of power and dependability, with service and spare parts nearer at hand. Write for folders on Pumpers . . . Squad and Hose Cars...or Ladder Trucks.

Modernize with . . .

Mack

...outlasts them all!

Mack Manufacturing Corporation • Fire Apparatus Division, Long Island City 1, N. Y. Factory branches for parts and service in all principal cities. In Canada: Mack Trucks of Canada, Ltd.

Read What Users Say About
INDIAN FIRE PUMPS!

ACTUAL UNSOLICITED TESTIMONIALS TAKEN DIRECTLY FROM OUR FILES

"Saved A Store And Several Buildings"

We consider your ***INDIAN FIRE PUMPS*** *one of the most important pieces of equipment in our company. Just two days ago we saved a Dry Goods store and several other buildings with small water damage by using* ***INDIANS.***

INDIANS *play a large part in extinguishing many of our fires and we intend to get more in the near future.*

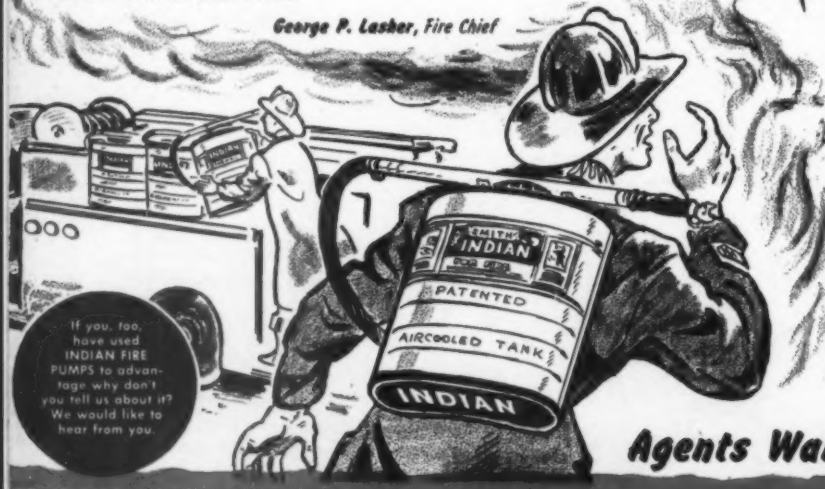
J. S. Williams

"Firemen Prefer INDIANS To Any Other Extinguisher"

I once thought ***INDIAN FIRE PUMPS*** *had use only where a volunteer department was putting out grass fires. Since including a No. 90 galvanized* ***INDIAN*** *on our apparatus, however, I found that the men would not use any other type of extinguisher.*

That led me to buy a number of No. 90 solid brass tank ***INDIAN FIRE PUMPS*** *and place them on all our equipment. Our men are most enthusiastic about* ***INDIANS*** *and prefer them to any other hand extinguisher for all Class A and small oil fires.*

George P. Lasher, *Fire Chief*



If you, too, have used INDIAN FIRE PUMPS to advantage why don't you tell us about it? We would like to hear from you.

"In No Time At All Had The Fire Out"

Today, I glanced out on the street and saw smoke coming from the hood of an automobile parked in front of my building. I rushed out and a man and a woman had gotten out of the car and raised the hood. A nice flame of fire had developed.

I rushed back in my store and got one of your ***INDIAN FIRE PUMPS*** *and in no time at all had the fire out. Someone called the fire department, but I had the fire out before they arrived.*

I bought these ***INDIAN FIRE PUMPS*** *from you three years ago. They had been standing filled with water but never used until today—they worked perfectly.*

A. G. Preston, *President*
Utica Office Supply Co., Inc.

Agents Wanted

FOR DESCRIPTIVE INFORMATION ON THESE FAMOUS FIRE EXTINGUISHERS WRITE TO

D. B. SMITH & CO. UTICA 2, N. Y.

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L. H. Curtis & Sons
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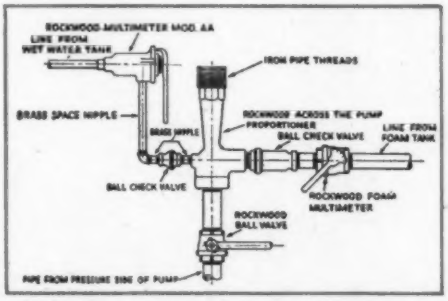
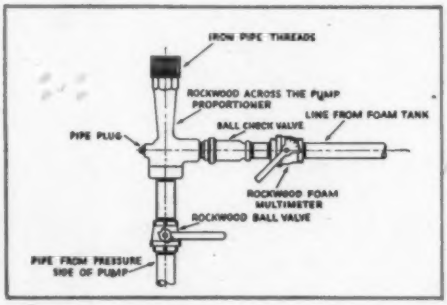
Duke Equipment Company, Limited
297 Duke Street

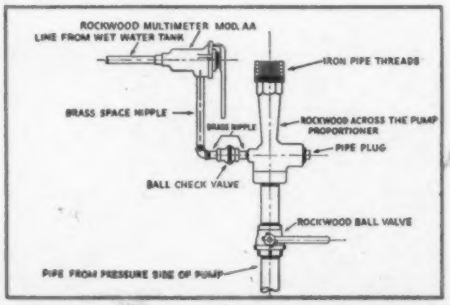
3 NEW ROCKWOOD AUTOMATIC PROPORTIONING UNITS FOR FEEDING FOAM LIQUID OR WETTING AGENTS INTO YOUR HOSE LINES



1. Rockwood Across Pump Proportioner Model Dual B for FOAM and WET



2. Rockwood Across Pump Proportioner Model Dual B for FOAM ONLY

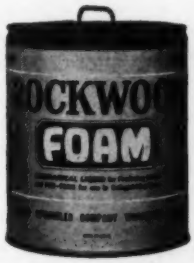


3. Rockwood Across Pump Proportioner Model Dual B for WET ONLY

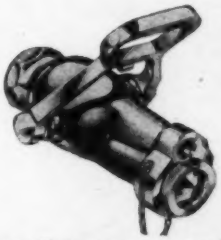
NO GUESS WORK—

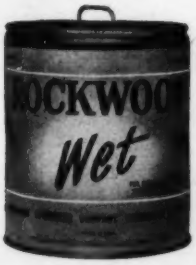
Metering valve automatically mixes the right amount of Wetting Agent or FOAM liquid with water

Here are three new Rockwood Automatic Proportioning units. One provides automatic proportioning for both FOAM liquid and Wetting agent, another is for FOAM liquid only and the third kit automatically proportions wetting agent only. All three kits are shown at left. They are known as the new type B Rockwood Across-the-Pump Proportioners. If you are planning to buy a new fire truck, be sure to specify one of these new Rockwood proportioners. They can also be added to the fire trucks you now have in service. Write for complete operating and installation data and prices.



To put out fires faster and more economically use Rockwood Foam Liquid with the new Type FFF Rockwood Fog-FOAM Nozzle.





The most efficient way to apply a *wetting agent* to most fires is thru a type SG-48 Rockwood Triple-action WaterFOG Nozzle.

ROCKWOOD

ROCKWOOD SPRINKLER COMPANY

54 HARLOW STREET WORCESTER 5, MASSACHUSETTS

Specialists in Fire Protection Engineering, Equipment and Installation since 1907

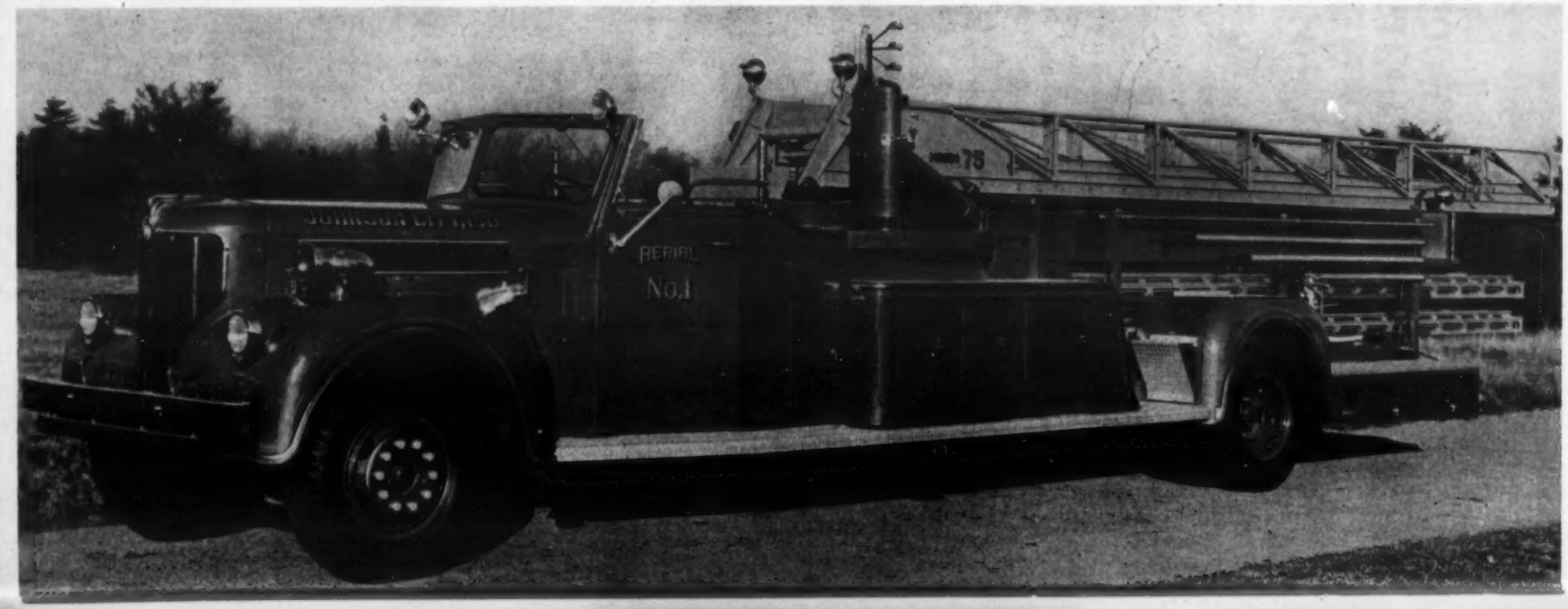
MAXIM

A COMPLETE LINE OF MOTOR FIRE APPARATUS

SMALLER cities, like Johnson City, Tennessee, would be wise to investigate the definite merits of this Maxim 75-ft. aerial. All steel, fast and simple to operate, dependable—a job that we are proud of—a job that you'll be proud to own and operate.

Other aerials of different lengths, all with the same sound engineering and perfect workmanship that have made for MAXIM apparatus a reputation for dependable, trouble-free operation.

Maxim Motor Co., Middleboro, Mass.



The Hartebeest is Quick...

This African antelope depends on its speed to elude its enemies; can sprint at better than a mile a minute. The hartebeest easily outdistances even the greyhound.

BUT...

Nothing is Quicker than GENERAL QUICK AID FIRE GUARD For Fighting Fire!

When fire strikes, every second counts. The speed of your fire extinguisher may mean the difference between a small blaze and a huge loss in life and property. The exclusive patented Safety Phlare and Panic Proof handle found only on Quick Aid Extinguishers enable you to fight fire fast and fight it effectively. Quick Aid Vaporizing Liquid Extinguisher (shown at right) is widely recognized as America's great utility fire extinguisher, and is Underwriters' Approved for office, factory, home, store, farm, car, truck, boat, or plane. Recommended for gasoline, oil, paint, electrical, and similar fires. Available in 1 and 1½ qt. sizes. Look in the classified section of your telephone book for the Quick Aid trade mark, or write direct for the name of your nearest dealer.

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IF IT'S GENERAL IT'S DEPENDABLE

CAIRNS

The "LIFE-GUARD LINE" of

FIRE HELMETS

• • • • • • • •

IN LEATHER

The "NEW YORKER"

(No. 5A—REGULATION)

Made of selected, tough, top-grain leather specially tanned and treated for hardness and heat resistance, the "NEW YORKER" is the safest, strongest, most durable helmet ever made. Service records up to 30 years are not unusual—making it the least expensive helmet a fireman can buy.

We also make leather helmets in drop brim and other types, and in other weights.

IN ALUMINUM

The "SENATOR"

(No. 350—REGULATION)

Pressed from one piece of metal, with corrugated four-comb crown and beaded reinforced brim, the "SENATOR" combines safety, strength and durability with light-weight comfort. It is equally popular with volunteers and regulars.

We also make aluminum helmets in drop brim and other types.

IN PLASTIC

The "CLIFTON"

(No. 900—REGULATION)

Here's a replica of the "NEW YORKER" in shape but made of "Flintflex"—our superior plastic material that is light in weight, hard without being brittle, and tough and flexible while still retaining its shape. It's non-conducting and resistant to water and chemicals.

We also make helmets of "Flintflex" in drop brim and other styles.

• • • • • • • • •

Write for Catalog 331 showing everything a fireman needs for his personal equipment—together with Department Record Books, Secretary's Book, and printed forms.

CAIRNS & BROTHER, INC.

OUTFITTERS TO FIREMEN SINCE 1836

854 Bloomfield Ave., Allwood, Clifton, N. J.

ALL NEW...

OREN

750—1000 G. P. M.
CUSTOM-BUILT "BIG JOBS"

The unit illustrated was recently delivered to Ludlow, Massachusetts. A Model 1600/1000 with semi-cab, foam and wet water proportioner, 550-gallon booster tank and other special equipment.

PERFORMANCE — *PLUS!*

Class "A" tests with adequate reserve of both Volumes and Pressures insure the performance of this and other Oren Units, above standard—*over many years of hard fire-fighting service.* Performance-*plus* is assured with Oren.

- TWO MODELS—190 and 240 Horsepower . . . 750 and 1,000 G.P.M.
- **VARIATIONS—Both pump capacity and engine power may be varied to fit your individual requirements. Send us your special design or equipment needs and let us figure on equipping your Department with the latest in modern fire equipment, with time-proven features and your own special needs built right in.**
- QUALITY—Every Oren Unit is *designed and engineered* to give you the utmost in long, dependable fire-fighting service. Equipment furnished is especially selected to provide the best in quality, utility and appearance.

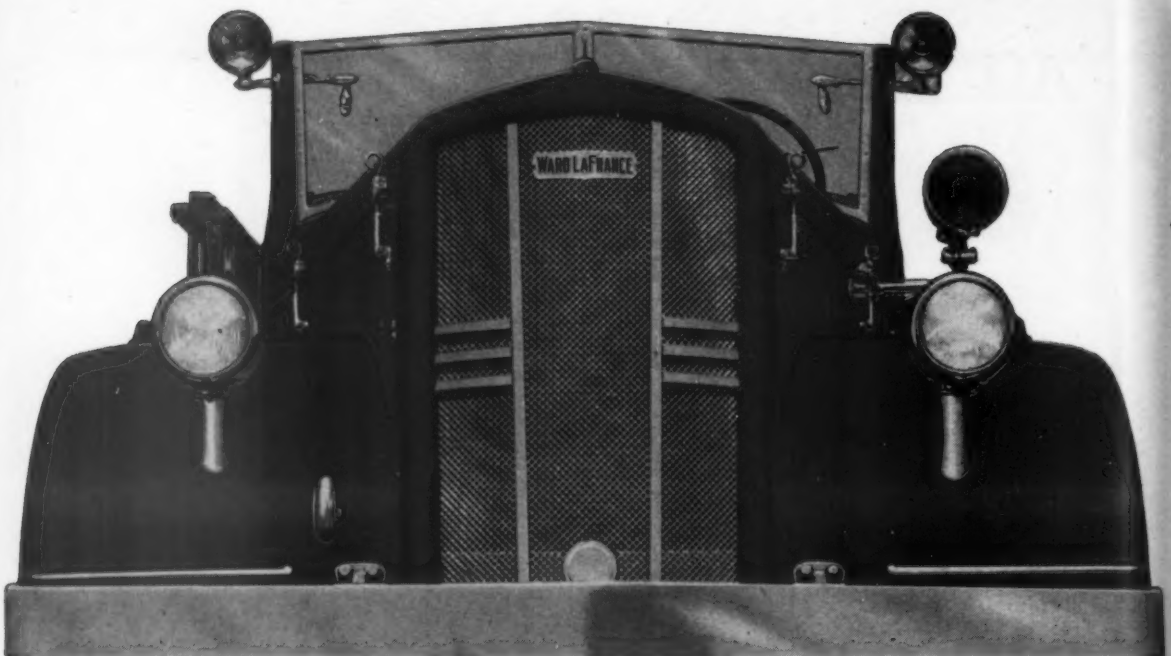
"Dependability in multi-service pumps and high-output engines."

WRITE FOR INFORMATION

OREN ROANOKE CORPORATION

ROANOKE VIRGINIA

OREN



WARD LaFRANCE

offers

A complete line of *weight to horsepower* ratio vehicles to meet the demand of the topographical conditions of your community.

This is a part of our slogan, "Predetermined Performance".

It will pay you to investigate Ward LaFrance—choice of the nation's leading cities. Send for bulletins 75-85.

A few choice territories are still open. Write today for information.

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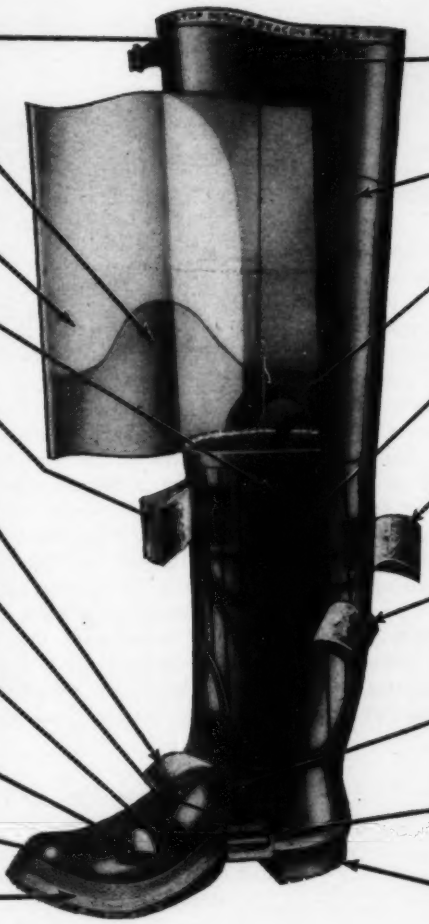

- SPECIAL HIP WITH HIGH FRONT SKIRT, ALSO IN SHORT HEIGHT.
- THICK GAUGE INSIDE GUM KNEE PATCH OF CREPE RUBBER - PREVENTS SHARP CRACKING.
- NET LINING FOR AMPLE STRETCH THROUGHOUT THE ENTIRE SKIRT.
- WARM WOOL LINING THROUGHOUT.
- SPECIAL STIFFENING COLLAR TO MAKE IT EASY TO GET INTO THE BOOT.
- FOURTEEN PLIES OF FABRIC AND RUBBER WITH SPECIAL THROAT STAY.
- WARM FELT LINING, FELT COVERED, CUSHION INSOLE.
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- NINE PLIES OF FABRIC AND RUBBER AT THE VAMP.
- REINFORCING TOE CAP PROTECTION.
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- STORM KING LENGTH IS 3" HIGHER THAN THE USUAL, GIVING MORE PROTECTION - QUICK ADJUSTMENT.
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- THIS ENTIRE BOOT IS VULCANIZED BY AMMONIA CURE - A PATENTED, EXCLUSIVE FEATURE.
- SIX PLIES OF FABRIC AND RUBBER HERE.
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(All Booster Cooled)

Forming the backbone of 52 recent additions to Philadelphia's fire-fighting fleet, shown on review in Rayburn Plaza, are 32 powerful pumpers.

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Just as Autocar standardized here on BCFs for year 'round reliance, so are other famous bus and truck manufacturers standardizing on BCFs for protecting today's larger, faster engines. Auxiliary cooling of lube oil, and essential cooling of torque converter oil are two more automotive applications of the versatile BCF that keep prime movers on the move day and night regardless of weather and road conditions.

If, like the Autocar pumpers, the vehicles you make or operate must always be prepared for conditions adverse to proper cooling, it will pay to investigate the low cost, high performance advantages of BCF . . . the compact, lightweight product of industry-leading Ross research and pace-setting Ross standardization.

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ADT

PERFORMANCE 1949

Year after year the high ratio of immunity from fire and burglary losses is convincing proof of the exceptional effectiveness of ADT Central Station Protection Services.

The accompanying performance record for 1949 merits the careful consideration of owners, business executives and others responsible for property protection.

BURGLAR AND HOLDUP ALARM SERVICES

Attacks on ADT Protection	1,866
Entrances effected	1,017
Captures as result of burglar, holdup and other emergency alarms	739
Insurable values of properties protected	$2,439,854,000*
Ratio of losses to insurable values protected	1/100th of 1%
Burglary loss immunity in 1949	99 99/100 %

AVERAGE BURGLARY LOSS IMMUNITY DURING THE PAST TEN YEARS 99 99/100 %

*Not including ADT-protected values in bank vaults, the U.S. Treasury, 26 Federal Reserve Banks and branches, the U.S. Mints and the U.S. Bullion Depositories at Fort Knox, Ky., and West Point, N. Y.

WATCHMAN'S REPORTING AND MANUAL FIRE ALARM SERVICE

Investigations of failures of watchmen to signal Central Station on schedule	203,651
Total number of signals recorded	350,217,000
Watchmen's patrol efficiency	99 94/100ths %
Alarms from Manual Fire Alarm Boxes	1,167
Insurable values of properties protected	$15,157,491,000
Ratio of losses to insurable values protected	3/100ths of 1%
Fire loss immunity in 1949	99 97/100 %

AVERAGE FIRE LOSS IMMUNITY DURING THE PAST TEN YEARS 99 96/100 %

SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE

Supervisory alarms, indicating temporary impairment of sprinkler systems	181,127
Waterflow alarms, caused by fires or serious leaks	2,883
Manual fire alarms	112
Insurable values of properties protected	$8,572,030,000
Ratio of losses to insurable values protected	2/100ths of 1%
Fire loss immunity in 1949	99 98/100 %

AVERAGE FIRE LOSS IMMUNITY DURING THE PAST TEN YEARS 99 98/100 %

These figures are of special significance because they reflect the importance of continuous supervision, regular inspections and tests, and proper maintenance. Such specialized attention is essential to constantly dependable protection service.

Write for booklet "Protecting Life and Property" describing all ADT Services.

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CENTRAL STATIONS IN ALL PRINCIPAL CITIES

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something **NEW** *in fire-fighting service!*

the HI-PRESSURE BLITZ BUGGY

CHEVROLET
World's Leading Truck

+ plus +

HALE HPG PUMP
Dependable and Efficient

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HI-PRESSURE BLITZ BUGGY
World's Most Efficient Fire Fighter

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600 lb. Hi-Pressure Fog Most Efficient Method of Extinguishing Fires

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Easy to Operate

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Most small fires will be out before larger, slower equipment would arrive. Will handle 90% of your fires quickly and effectively. Is a self contained unit with plenty of storage space for regular equipment and SCOTT AIR-PAK, WATER WETTER, etc. Ideal for small departments, city departments, air fields and industrial fire departments. Gated suction for hydrant or portable work. Cuts down water damage—attains 600 lb. pressure with ease. THE GREATEST MONEY RETURN FOR YOUR FIRE FIGHTING DOLLAR.

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The Original MIDWESTERN Yellow Striped Safety Coat Is Again Available . .

for Men of Action!

Here's Protection and Comfort in Your Hazardous Work of Safeguarding Life and Property Against FIRE!

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Every Midwestern product combines the thoughts and suggestions of practical Fire Chiefs and firemen from every section of the country . . . and every purchaser profits from years of Midwestern research and experience. That is why the famous Mackinaw Coat and other Midwestern clothing have embodied in their design every feature necessary for the protection and comfort of firemen.

In our vast selection of crude rubber materials you will find a type of fabric suitable for your climate and needs. The softness and flexibility in the high-grade materials used are your assurance of long time service and comfort. Many Fire Chiefs are now including Midwestern clothing in their regular yearly budget and, by placing your order early, you can be assured of this adequate protection when needed.

For complete information, have your Midwestern dealer show you our new garments now manufactured from crude rubber compounds. A letter to the factory will also bring you material samples for your inspection.

We now have available: White, Ivory and Brown crude rubber coats for Chiefs, Assistants and other officers; also all sizes short and ¾ length felt lined Firemen's boots for immediate shipment.

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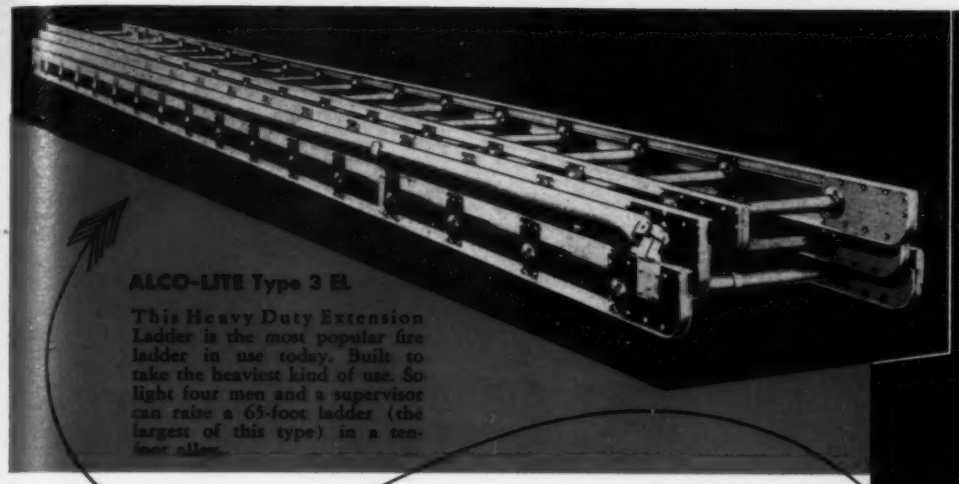

ALCO-LITE Type 3 EL

This Heavy Duty Extension Ladder is the most popular fire ladder in use today. Built to take the heaviest kind of use. So light four men and a supervisor can raise a 65-foot ladder (the largest of this type) in a ten-foot alley.

Three different ladders
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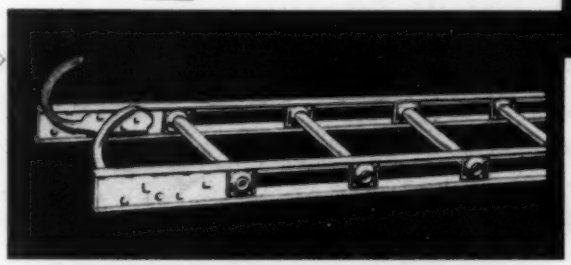
There are many different types of ALCO-LITE Aluminum Fire Ladders (one for every purpose), but they all have one feature in common: the highest possible standards of workmanship and engineering. Insist on the *original* Aluminum Fire Ladder — specify ALCO-LITE on new trucks or for replacement of your old ladders.



ALCO-LITE Type RL

The Roof Ladder is light and easy to handle . . . can be used for bridging floors and roofs as well as for scaling. All aluminum except for folding hooks made from the finest forged steel.

ALCO-LITE Type SL

The Single Wall Ladder is a strong, useful ladder of extremely light weight. It is suitable for general fire-fighting and is especially handy for bridging floors. A desirable adjunct to every fire company's scaling equipment.

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ALUMINUM LADDER COMPANY

200 CARRIS STREET • WORTHINGTON, PENNA.

IN CANADA: C. E. HICKEY & SONS, LTD., HAMILTON, ONTARIO

The Original Manufacturer of Aluminum Fire Ladders

SINGLE WALL LADDERS • LIGHT-DUTY EXTENSION LADDERS • HEAVY-DUTY 2, 3 AND 4-SECTION EXTENSION LADDERS • ROOF LADDERS • FOLDING LADDERS • PIKE POLES

CATALOG ON REQUEST

John Bean High-Pressure Service ladder truck. 5-ton chassis; 60 G.P.M., 850 lbs. high-pressure pump; 2 hose lines with guns discharging 30 gals. each; 400-gal. water tank; assorted ladders up to 45 feet.

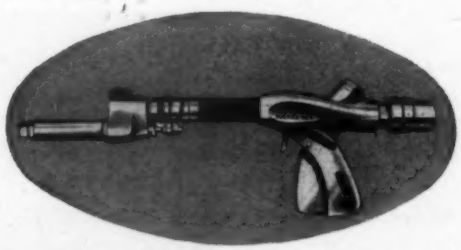
1000 fire chiefs can't be wrong!

More than 1000 fire chiefs are using John Bean High-Pressure Fog Fire Fighters for *first line fire fighting.* Their success and results are substantial proof of every Bean claim.

ONLY BEAN DOES THE COMPLETE JOB

John Bean Fog Fire Fighters . . .

1. **Go into action immediately on arrival**
2. **Eliminate almost all water damage**
3. **Require less than 10% as much water**
4. **Operate simply, both at truck and fire**
5. **Last longer because they are built complete in the Bean factory by experienced high-pressure engineers**
6. **Provide positive displacement slow-speed pump and slow engine speed. No destructive racing of engine**
7. **Carry the patented Bean Fog Gun, unquestioned for superiority in design and efficiency**



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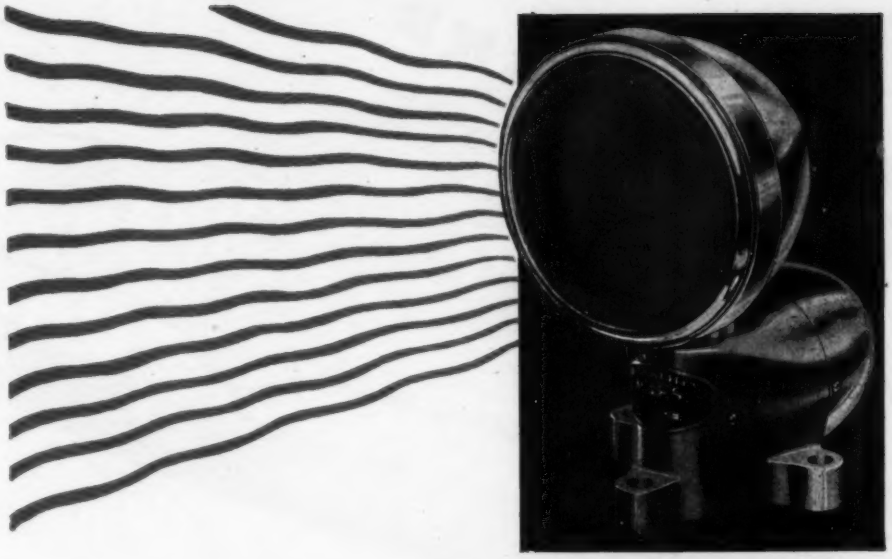

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THERE ISN'T ANOTHER LIGHT LIKE IT

THE MARS SIGNAL LIGHT

is the only OSCILLATING warning signal light that FLASHES a POWERFUL FIGURE 8 beam of red light—a mile ahead of your apparatus—from building line to building line—and hundreds of feet into the air. This POWERFUL FIGURE 8 BEAM of red light can be plainly seen by traffic APPROACHING intersections ahead of you LONG BEFORE you reach the crossing. Motorists everywhere recognize THIS light.

MARS HAS STOOD THE TEST OF MORE THAN SIXTEEN YEARS OF SERVICE

IT IS FULLY GUARANTEED FOR FIVE YEARS!

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Thinner and Flatter

Clings Together

Flexible

Smokey has his eye on that New Blackinton AERO BAND. It's really something to shout about — with features never known before in cap strap construction.

It's Thinner and Flatter: Ordinary flexible cap straps (A) have that old belly bulge. The new AERO BAND (B) is thin and sleek looking.

It Clings Together: AERO BAND is constructed to cling to a cap. It snuggles close to the cap and then stays there.

It's Flexible: You can literally tie the AERO BAND in knots.

Ask your dealer to show you one . . . you'll be convinced that AERO BAND is the Strap for Your Cap.

Uniform houses, suppliers, etc. — let us show you the advantages of handling Blackinton badges and uniform equipment. Write for information today.

V. H. Blackinton & CO., INC.

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ESTABLISHED 1852

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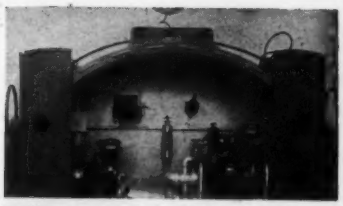
ONLY *Smithco*

gives you a 2000 GALLON FIREFIGHTER



the NEW *Smithco* FIREFIGHTER

. . . designed especially for suburban and rural communities with limited water supply

The new Smithco Firefighter delivers the goods. No rural or suburban community can afford to be without it. Only Smithco gives you a 2000 gallon carrier plus all these extra features.

1. Hale Type FZZ Pump—60 to 150 G. P. M. @ 90 to 30# Pressure
2. 1500 Watt 110 Volt A. C. Light Plant
3. Three 250 Watt Floodlights, Cable, Adapters, etc.
4. Two 12' Aluminum Pike Poles
5. One 10' Aluminum Folding Ladder
6. Two 10' Sections of 2" Suction Hose with Quick Detachable Couplings
7. Three hundred feet of 1½" Underwriters "DJ" Hose
8. Two hundred and fifty feet of ¾" Booster Hose
9. One ¾" Mystery Fog Nozzle
10. Two 1½" Mystery Fog Nozzles
11. One 1½" Siamese Connection
12. One 24' Aluminum Extension Ladder
13. Four Rubber Rainsuits and Hats
14. Two 15-pound CO_2 Extinguishers
15. One Pioneer Rack with Axe, Pick and Shovel
16. Two 5-Gallon Fuel Cans

RECOMMENDED TRACTOR—F7 or F8 Ford, WC-20T White or Equal

Phone, wire or write today for further information!

L. B. SMITH, Inc.

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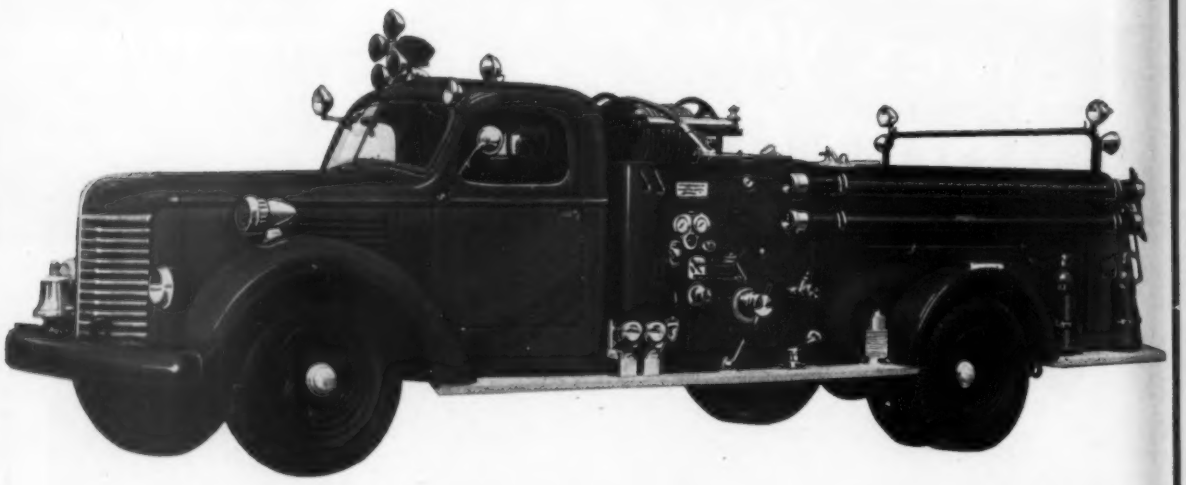

ADVANCED ENGINEERED FOR SERVICE

OUR 25 years of experience with pumping engine problems gives us the necessary background to assure you of dependable service.

BOTH midship and front mounted models are available, built on your favorite chassis, meeting all Underwriters' requirements.

Be Sure — Select The Best — Select American

Shown above is the Barton Super-fog gun in action. Mere finger pressure will give you long and short range fog streams and powerful straight streams at safe high pressures. It is the most effective fire fighting stream yet produced.

STANDARD equipment includes such exclusive features as: frostproof outlet valve; frostproof single control drain system; electric re-wind hose reels; and the *unbeatable combination*—the Barton American fire pump and Barton Super-fog gun.

We invite you to call on our established sales representative to assist you with your fire fighting problems.

American

FIRE APPARATUS*

*Div. American-Marsh Pumps, Inc.

BATTLE CREEK, MICHIGAN

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IT'S EASY TO CARRY—weighs only 44 pounds. The case is only 19¾" long, 10⅝" high, and 9¼" deep.

IT CAN BE SET UP ANY PLACE where there's a 115-volt, a-c supply—forestry, utilities, construction projects, etc.

IT'S IDEAL for 2-way operation (police, fire, etc.) in small and medium-size municipalities requiring medium-range communication equipment.

For *portable or fixed* station use

. . . the RCA Carfone Station Unit "15"

THIS is the most versatile 2-way radio station ever designed for medium-range communication. It is complete with transmitter, receiver, power supply, portable antenna, handy microphone, and loud speaker—*all in a single package.*

Easy to carry and easy to set up, this portable unit can be operated wherever there is a 115-volt, a-c outlet.

For fixed station use, place the unit on the operating desk, hook-up the antenna, plug in the power cord, and you're set to go. For portable station use, simply connect the quarter-wave, whip antenna (supplied) and plug in the power cord. No extra components to carry around. No installation expense involved.

Greatly improved receiver selectivity reduces adjacent channel signals well below interference levels. A newly-designed transmitter modulation control enables you to transmit the full signal potential of the transmitter and maintain 100 per cent modulation at virtually all voice levels—*whether you shout or whisper into the microphone.*

For complete information on the new RCA Carfone Station Unit "15", write Dept. 104C. RCA Engineering Products, Camden, New Jersey.

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A Modern
GAMEWELL
FIRE ALARM INSTALLATION

New Fire Alarm Central Station

This new fire resistive building is especially designed to house the new central fire alarm equipment.

The operating room contains the latest design of Gamewell manually operative—Type A—fire alarm central station equipment for 24 box and alarm circuits. The operator's desk in the foreground is equipped with two GAMEWELL Peerless type manual transmitters, two master recorders combined with time stamps, the necessary control switches, and transmitter for the GAMEWELL Vocalarm voice communication system. Six GAMEWELL Peerless type recorders for establishing permanent records of alarms sent over the box and alarm circuits are shown on the pedestal at the left.

The City of Bethlehem, Pennsylvania, first installed the GAMEWELL system in 1894. When a major enlargement became necessary the City again preferred Gamewell.

THE OPERATING ROOM

GAMEWELL
FIRE ALARM BOX

Bethlehem protects its citizens, and their property, with GAMEWELL Three-Fold fire alarm boxes.

We plan and supply systems for cities and towns of all sizes.

THE GAMEWELL COMPANY

NEWTON UPPER FALLS 64, MASS. U. S. A.

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FIRE ENGINEERING

MARCH, 1950 VOL. 103. NO. 3

With the Editor

Preserved for Posterity

The history of the American fire service is steeped in tradition and rich in heritage. It is a story of romance, of drama and daring—in man's never-ceasing fight to overcome fire in all its frightfulness.

Nothing is more essentially and inherently American than its fire service and nothing is more inextricably identified with the preservation of the nation's resources and riches, and its economic and social progress, than the fire service.

Of late years the complaint has been heard in growing chorus that the romance and the glory of "the good old days" of the fire service were passing; that the service was becoming a "business" and just a "mechanized routine." This sentiment is expressed by some who say "the thrill went out with the horses."

Perhaps that is so, but we doubt it. It is true, fire fighting may be taken more matter-of-factly, more as a business and a career than ever before, but to the vast majority of firemen, and those kindred souls, the fire buffs—yes, and even to the man on the street (who complains publicly over the high cost of fire protection, but who admires and praises the deeds of the fire service in private)—there is still the thrill which is only to be found in jam-packed action against fire.

It would be regrettable for the country and the fire service, if the glamor and the glory that have been so traditionally a part of the service were to be submerged for selfish materialism.

One thing that will retain for history the aura of legend and romance of the fire service, and at the same time provide stimuli for the fire fighters of tomorrow, is to collect and preserve the priceless records and relics of the service.

It is regrettable that at present there is no "American Museum of Fire Service History",—no "Academy of the Arts and Sciences of Fire Control"—no Mecca to serve as the national shrine of the fire service, where those who love its traditions and heritage can go to reaffirm their faith and interest in the service. It is regrettable too, that so few municipalities have given any serious consideration to the preservation and enshrinement of the relics and records of their local fire departments for posterity. Only a few historical collections of fire service incunabula exist today in the nation, and almost without exception, they are in the hands of private corporations and collectors.

One such outstanding collection is that maintained by the Fire Department of the City of New York in its gigantic new Fire Department Building, Long Island City.

This rare collection not only provides the historical background for the training of New York Firemen, but it serves to create much favorable good will for the Department.

Fred Shepperd

Museum Provides Background for New York City Fire College

Unique Collection of Rare Relics Also Builds Good Public Relations for World's Largest Fire Force

By ROI B. WOOLLEY

Editor's note: **Fire Engineering is indebted to the following for most of the material upon which this account of the Fire College of the City of New York is based: Fire Commissioner Frank J. Quayle; Chief of Staff and Operations Frank Murphy; also to Deputy Chief of Staff and Operations Edward G. Conway, in charge of the Fire College, and his staff; in particular to Battalion Chief James Byrne and Fireman Walter F. Beatty, Curator of the Museum. Also to Acting Lieutenant Ray Hellriegel, Fire Department Photographer; and the official publication of the Department—"W.N.Y.F."**

Grateful acknowledgment is also expressed to Honorary Captain Clarence E. Meek, who is an authority on the history of the Fire Department of the City of New York.

IT is a natural concomitant that the largest city in the world should have the largest fire protection force. The complexities of the vast and varied construction, occupancy and industry in the city of over eight million population, with its 700,000 buildings and 578 miles of water front within its 320 square miles of built up property area, present almost every type of fire control problem to be found anywhere.

New York's fire fighters are called upon to meet not only the normal hazards to be encountered in any large American municipality, but untold unusual problems peculiar to itself. The magnitude of these problems and their threat to life and property within the great city dictates the need for a Fire Department of not only great magnitude in itself, but of peak efficiency.

To achieve that efficiency a rigid course of training of the most select personnel is mandatory.

The responsibility of training and teaching the small army of firemen who make up the New York Fire Department is the task of the Fire College of the Department.

This is the story of that Fire College, and of the Fire Department Historical Museum, which provides the rich traditional background for the College and the Department.

"Arms and the Man"

The Fire Department of the City of New York is a vast organization with many branches and divisions. Today there are a total of 369 Fire Companies, —221 Engine, 10 Fireboat, 127 Ladder, 5 Rescue and 6 Water Towers—supplemented by 35 Special Units, each designed and equipped to handle peculiar fire conditions and problems. These Companies and Units are organized into 5 Borough Commands, 12 Divisions, and 47 Battalions.

In addition to the pumpers, hose tenders, ladders, trucks, water towers, rescue units and fireboats, the Department includes two Smoke Ejectors; four Searchlight units; four Bridge Chemicals; three Gasoline and Oil Supply units; an Emergency Utility unit equipped with a battery of portable pumps; thirteen Hydrant Thawing rigs; three Ambulances; two Fire Service Supervising units; one Canteen Field Kitchen; two Air Compressor units; one Foam unit; one Oxygen-Therapy unit, and a large reserve of engine, hose and ladder apparatus.

To man and operate this array of fire control equipment the Department includes the following personnel in the Uniformed Force:

Chief of Staff and Operations	1
Chief of Department	1
Assistant Chief of Staff and Operations	1
Deputy Chiefs of Staff and Operations	17
Deputy Chiefs of Department	29
Battalion Chiefs	150
Chaplains	5
Chief Fire Marshal	1
Medical Officer in Charge	1
Medical Officers	10
Captains	365
Lieutenants	1,081
Pilots	44
Engineers	91
Firemen	8,749
Total	10,546

Busiest Fire Department

Not only is the New York Fire Department the largest in point of size, but it does the most "business".

In the year 1948, the fire-fighting force was called upon to extinguish 40,522 fires. In addition, it responded to 17,427 false or unnecessary alarms, making a total of 57,949 alarms of all kinds.

It should be obvious to the layman that this number of fires, in all types of occupancies involving human life and irreplaceable property, could easily result in widespread catastrophe were it not for the efficiency of the fire force, and in turn, for the schooling and instruction given its members.

This degree of efficiency is further re-

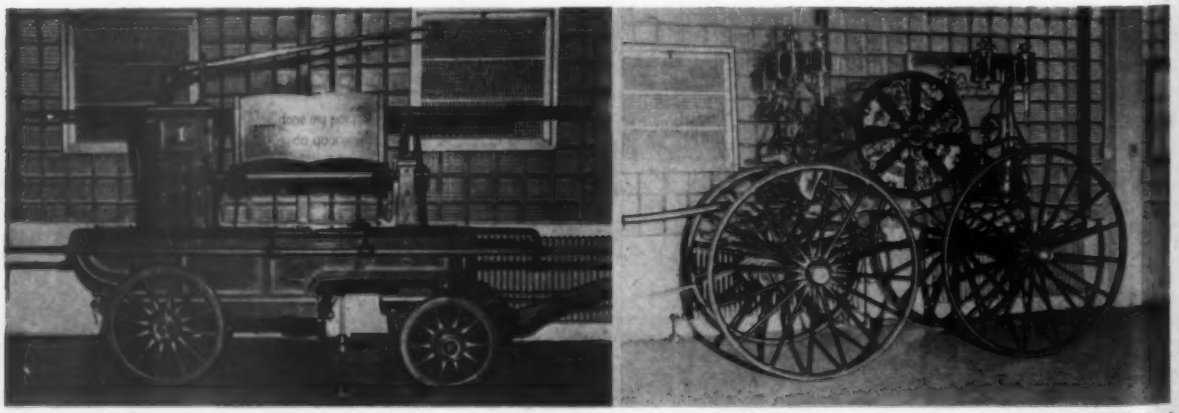


Photo by Ray Hellriegel

Left: A Prized Piece—Newsham "Pumper" of 1790. Old Side-Brake, "Gooseneck." The Sign Slogan Is Used as a Bit of Promotion. Right: Hose Carriages Were Things of Beauty. This Graceful and Colorful Hose Carriage Was the Pride of the Astoria, Long Island, Volunteers "Way Back When—"

vealed by a study of the Department's "vital statistics" for that year. These data disclose that of all fires fought, 20,472 were extinguished without engine streams and 16,487 with one engine stream. In short, 93.7% of the fires were killed before they could progress to the advanced stage. Furthermore, 99.9% of all fires were confined to the area involved upon arrival. Only 3 fires, or .007% of the total, extended beyond the original fire building.

Altogether, 180 fires of major proportions were fought, necessitating 120 second alarms; 35 third alarms; 18 fourth alarms and 8 fifth alarms. The estimated fire loss for that year (1948) was $19,784,125.00, or a per capita loss of $2.42. The loss per fire was $488.23. There were 4.96 fires per 1000 inhabitants and 5.70 fires per 100 edifices.

To operate the vast plant with its army of personnel comprising the New York Fire Department costs about again as much as the total loss from fire. The budget for the year 1948 was $53,715,997.20. Of this amount the actual expenditures for all training and instruction was a very small percentage of the total budget.

Physical Requirements Rigid

Before an applicant can become a Probationary Fireman in the New York Fire Department he must first pass (in addition to the mental examination) an exacting physical test.

Applicants who survive the strenuous "physical" are given a written examination. This still further screens out the more likely candidates who, upon achieving passing grades, go on the list for later appointment.

When the novice is appointed, he becomes a Probationary Fireman, and continues in this category for six months, meanwhile receiving his training in the Probationary Firemen's School and Fire Station duty. After six months, if he has passed the necessary tests and requirements he becomes a Fourth Grade Fireman.

New York Had First School

Although the City of New York was not the first American city to have a paid Fire Department, it was the first to institute comprehensive instruction and training of its fire fighters.

This came about indirectly as a result of the difficulties encountered by the Metropolitan Fire Department, created in 1865 to take over from the volunteers, who employed every obstacle to the organization and effectiveness of the new Department.

A special Assembly committee, convened in 1867 to investigate the alarming increase in the number of fires, heard charges that the Chief and Department were incompetent; that the professionals failed to respond promptly to alarms; that they did not inspect buildings properly, and so on.

The first organized instruction of the officers of the Department was inaugurated in 1869 when the Board of Fire Commissioners, headed by General Alexander Shaler, established an Officers' School and caused a "Manual of Instruction for Commanding Officers" to be prepared.

Three classes were formed: Chief Officers, Company Commanders and Company Officers not in command. All officers were required to attend their assigned classes, which met on each Monday, Wednesday and Friday.

The School of Instruction, which was to bring training to the men in the ranks, came into being on June 7, 1883 (General Order No. 4 of the series of 1883).

A contributing factor to the creation of this School was the purchase in 1882 by the Department of the first scaling ladders, called the Hoell life saving appliance, and the employment by the Department of the inventor, Chris Hoell of St. Louis, to instruct the firemen in the use of the device.

Assistant Chief Hugh Bonner was designated as Instructor of the School and two officers of the Uniformed Force were detailed as his assistants. The third floor of Engine 47, now the quarters of Ladder 22, was fitted up for the use of the School. Outdoor drills were held at the "old sugar house" at the foot of West 158th Street, North River.

These facilities were inadequate to the task and, when the new Headquarters building was designed to be erected on East 67th Street, the rear of the six-story structure was given over to the School of Instruction. The entire north, or 68th St. side of the building, and its large enclosed yard, became in effect the Department's "drill tower". The School was moved to this new location on January 1, 1887, and here also were located Engine 39 and Ladder 16, together with the administrative offices of the Department, and the Fire Alarm Telegraph Bureau.

Here the Department "probies" learned the evolutions and drills of the Probationary Firemen's School, and here later, firemen by companies were put through their paces. It was a tough school, a tough course and it turned out the toughest fire fighters in the world.

In 1914 the Headquarters were moved downtown to the new Municipal Building, but the 67th Street building and yard continued to be used as the School site where Acting Battalion Chief George McGinty and his staff of the Probationary Firemen's School now conduct the work of instructing the newly appointed members of the Department.

The Company School, which was designed to afford group training and keep the growing departmental company units at top of efficiency, was founded in May, 1888, by General Order No. 8. Prior to that time, the Department instructors and high command had reduced the fundamentals of training into a series of evolutions, some twenty-four in all, which were supposed to afford Probationary Firemen with all the basic knowledge required by the fire fighter. At the same time, these evolutions also provided the basis for comparisons upon which the efficiency of companies was gauged.

Fire College Formed

The Fire College was created by General Order No. 72, series of 1910, and was organized on January 1, 1911, a few months before the retirement of Chief Edward F. Croker. Chief Croker assigned Deputy Chief John Kenlon, later to become Chief of Department, in charge of the new College. To the latter is given the credit for the organization of the Officers' School and the Engineers' School (now the Motor and Pump Operators' School), and the inclusion of the Probationary Firemen's School and the Company School in the curriculum of the Fire College.

Throughout Chief Kenlon's long career as Chief of Department, the Fire College was his constant concern and study. The doughty Chief selected his best officers as instructors, and his surprise visits to the College and his quizzes of the classes kept instructors and students on their toes.

Writing about the Fire College, Chief Kenlon said "It may not inaptly be compared with the Staff College of an army, since all those joining it must be officers who wish to qualify along certain highly specialized lines". And, quoting from its charter: "To disseminate knowledge of fire fighting, to establish and maintain the highest professional standards and to afford to men starting in the profession of fire-fighting the experience of men who have devoted their lives to the profession".

When Engine Co. 40 vacated its old quarters on West 68th Street, near Broadway, on May 1, 1918, the Fire College took over that building and remained at that address until its removal to Long Island City in 1934, where a leased building was occupied and at which time the Fire Department Museum enters the picture.

This was during the tenure of Chief John J. McElligott as head of the De-

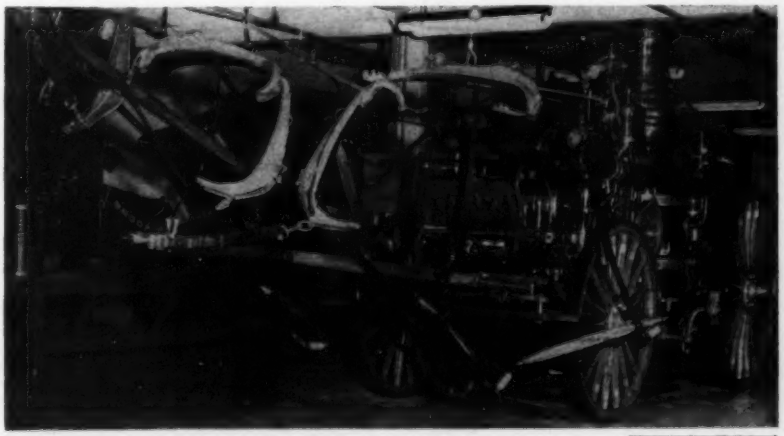


Photo by Ray Hollriegel

A Rarity—Steamer and Three-Horse Hitch

One of the very few known "hanging hitches" in existence shown on one of the five old steamers in the Museum.

partment. But before describing the Museum it should be recorded that, in 1937, Chief McElligott established the Motor and Pump Operators' School at the Fire College in its new quarters. Later, also, Probationary Firemen were to receive instruction at this new location, as well as at the 67th Street building as the Department's personnel continued to expand. This period marked further centralization of Department activities in the Long Island City building, such as the Apparatus Division, the Bureau of Department Buildings, the Print Shop and Bureau of Uniform Inspection.

In 1948 this consolidation and centralization was carried still further when the Department occupied its huge new Shops and College building on Hunters Point Avenue, Thirty-fourth to Thirty-fifth Streets, Long Island City, only a short distance from the unsuitable structure it had used as a stop-gap from the time the College left Manhattan. Now under one tremendous roof, and operating as a single Division under Deputy Chief of Staff and Operations Edward G. Conway, assisted by Battalion Chief James Byrne, Acting Battalion Chief George McGinty, and a staff of members of the Uniformed Force, all training activities are being carried forward. The only hold-over from the past is use of the 67th Street site as the "drill tower" of the Department.

College Consists of Many Units

Today, nearly all New York Fire Department training and instructional activities are grouped within the Fire College. The College consists of the following Schools:

A—Officers' School
B—Motor and Pump Operators' School
C—Fire Hazards Inspectors' School
D—Fire Protection Field Educational School
E—Company School
F—Probationary Firemen's School

On the surface this may appear to be a somewhat bewildering combination. It does not appear so complicated, however, once the objectives and duties of the individual Schools are known.

Regularly assigned as instructors at the College are Deputy Commissioner Dr. Harry M. Archer; Chief of Department Peter Loftus; Deputy Chiefs of Staff and Operations Edward G. Conway, Joseph J. Scanlon, Richard Burke, Michael Powers, Daniel Deasy, Martin Carrig, Edward M. F. Conway, John Holian, Patrick Clancy, Edward Connors, Antonio Petronelli; Deputy Chiefs of Department James W. O. Wood, Edward M. McGarry, and James Maguire; Battalion Chiefs Andrew X. Quinn and James Byrne; Acting Battalion Chiefs Harry M. Irwin, and George McGinty; Captain Joseph H. McNerny; Acting Lieutenants John Frey and Thos. Cullinan; Deputy Chief Fire Marshal Martin Scott; Electrical Engineer William Hennessey; Inspectors S. Brussell, Henry Hille and Chris Maddox. Also Mr. J. J. Gagan of the Consolidated-Edison Company; Mr. Edwin Kelly, Board of Transportation and Chief Engineer William Kelly of the Department of Water Supply.

All courses of instruction prescribed for each of the Schools is subject to the approval of Fire Commissioner Quayle.

The Official Action Guide of the Department sets forth the conditions under which members shall attend Schools and conduct themselves in matters of attendance, absenteeism for whatever cause, and so on. It sets forth also, the conditions under which members of Fire Departments, other than New York, desiring to attend any of the several Schools may do so. Written application is an essential. They report to the Officer in Command of the Fire College, and are assigned to Companies for fire duty when not in attendance at classes.

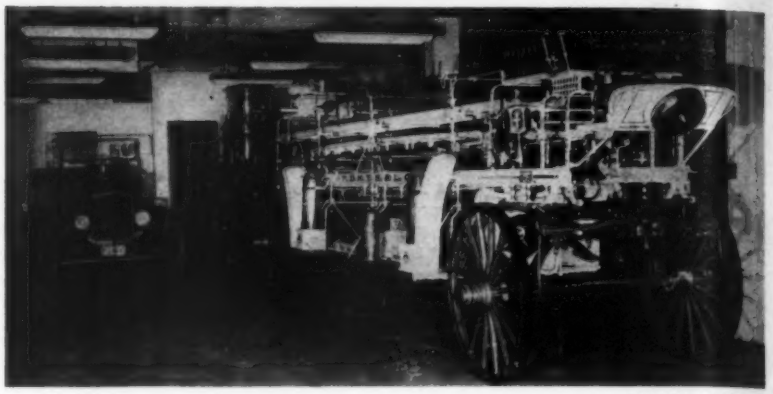


Photo by Ray Hallriegel

Early "Tiller" Service Truck a Prized Piece
A "Gleason & Bailey" tiller-driven ladder truck once the pride of Ladder 10, New York Fire Department. In rear, an Amoskeag Steamer (1873) and Model T Ford Chief's car (1915).

Officers' School

All officers of the Department, when promoted or as otherwise directed by the Commissioner, attend the Officers' School. Classes are held in the School on designated days from 9:00 A.M. to 4:00 P.M., courses of instruction being maintained in the following subjects:

Building Construction
Building Inspections, Records and Reports
Care of Apparatus and Hose
Chemicals, Combustibles and Explosives
Chemical Fire Extinguishing Systems
Detection of Incendiarism
Direction of Hose Streams
Discipline and Administration
Drills and Formations
Fire Alarm Telegraph and Auxiliary Systems
Fires in Classes A and B Multiple Dwellings
Fires in Electrical Equipment and Wiring
Fires in Frame Buildings
Fires in Grass and Brush
Fires in Loft Buildings
Fires in Lumber Yards
Fires in Oil and Varnish Plants
Fires in Piers, Docks, etc.
Fires in Ships, Boats, etc.
First Aid
Gasoline Motors and Pumps
High Pressure Water Supply Systems
Miscellaneous Records and Reports
Operation of Fire Boats
Operation of High Pressure Pumping Stations
Operation of Rescue Companies
Operation of Water Towers
Overhauling at Fires
Portable Auxiliary Fire Appliances
Refrigerating and Air Conditioning Systems
Serving of Summonses
Standpipe Systems
Stretching and Using Hose Lines
Theatres and Places of Public Assembly
Tools and Equipment
Ventilation at Fires

These are "required topics" as stated in the Official Action Guide but this does not mean that additional subjects cannot be added. Actually, the aim is to keep the curriculum and topics abreast of the changing hazards and fire control problems of this hectic era.

Members who are absent from any lectures, while enrolled for the Officers'

Photo by Ray Hallriegel

Buggy Used by New York's Famous Chief Croker
Discarded by the colorful chief (who is still alive) for the Department's first motor vehicle.

School, shall be required to attend such lectures when given at subsequent sessions. Further, they are required to take a written examination upon completion of the courses of instruction, the results of this examination being sent to the chief of staff and operations by the Officer in Command of the Fire College.

Motor and Pump Operators' School

Members assigned to this School are selected from lists of names submitted by Company Commanders in their Quarterly Reports on Motor and Pump Operators. Enrollees attend classes from 9:30 A.M. to 12:00 noon or at other hours on designated days.

The courses of instruction in this School are as follows:

Care and Operation of Fire Service Pumps
Care and Operation of Hydrant Service Apparatus and Portable Fire Hydrant Thawing Devices
Care and Operation of Internal Combustion Motors
Construction and Care of Storage Batteries
Construction, Operation and Care of High Pressure and Low Pressure Fire Hydrants
Construction and Operation of Automotive Cooling Systems
Construction and Operation of Automotive Fuel Systems
Construction and Operation of Automotive Ignition Systems
Delivery of Effective Fire Streams from Pumping Engines
Draughting Water from Rivers, Lakes, Sumps, etc.
General Construction and Care of Fire Apparatus
Lubrication of Fire Apparatus
Supplying Water to Standpipe and Sprinkler Systems.

Members who show sufficient interest during the course and satisfactorily pass an examination, may be designated as Motor and Pump Operators and may be assigned to that duty in their respective companies or to which they may be transferred, "in preference to all other Members not designated as Motor and Pump Operators."

Such Members are urged to consider they have a moral responsibility; the safety of members of the department and civilians depends upon them while apparatus is responding to and returning from alarms; also, while it is being operated at fires.

Members are instructed to report to the School at any time they feel there is something they do not understand about their apparatus. An Instructor is regularly scheduled at the School from Monday to Friday and part of Saturday for the purpose of giving personal instruction to Members who have graduated from the school.

Once a member's designation as Motor and Pump Operator has been officially revoked, he is not again permitted to operate motors or pumps on any Department apparatus.

Fire Hazard Inspectors' School

One of the later developments in the Departments' program of instruction, this School is attended by selected Members. They attend classes from 1:00 P.M. to 4:00 P.M. or at other hours on designated days. They are governed in general by the same regulations that apply to the Officers' School. The course of instruction includes the following subjects:

Bulk Oil Storage Plants
Buried Storage Systems for Volatile and Flammable Oils
Dry Cleaning, Dyeing and Technical Establishments
Inspections, Records and Reports
Fire Drill Organization
Flame Proof Draperies, Curtains, etc.
Fuel Oil Heating Installations
Interior Fire Alarm Systems and Watchmen's Services
Legal Procedure in Connection with Building Inspection Duty
Motion Picture Film and Other Nitrocellulose Products
Portable Auxiliary Fire Appliances
Refrigerating and Air Conditioning Systems
Rules, Regulations and Procedure Governing Building Inspection Duty
Sprinkler Systems
Standpipe Systems
Transportation, Storage, Use and Sale of Explosives
Transportation, Storage, Use and Sale of Petroleum Products

Instructors assigned to this school make use of standardized building inspection terms during lectures in order to promote better understanding and cooperation between Members of the Uniformed Force and civilian attaches of the Division of Fire Prevention and the Division of Combustibles.

Instructors make use of cross-sections of refrigerating and air conditioning systems, tank truck covers, fuel oil heating devices, safety cans, etc., all of which are on display at the Fire College.

Members must take an examination and those who pass receive preferential consideration. Should a fireman's designation as a Company Building Inspector be revoked he is not permitted to perform building inspection duty.

Fire Protection Field Educational School

This School is another answer to the growing need of specialization in the Department. It was organized to train Members of the Department to give educational talks on Fire Protection to groups of persons in schools, factories, workshops and offices, and to members of civic, business and social organizations. Members of the Department, other than officers, who feel qualified to give educational talks may apply for this course.

The ability of the men to speak is tested by the Officer in Command of the Fire College and members who qualify are eligible for assignment to the Public Speakers Squad. These men report for assignment to the Officer in Charge of Personnel Records at Headquarters. They are required, also, to submit written reports of their activities at the end of each month. The Department has various printed forms for keeping records of talks, etc. The keeper of the personnel records in turn forwards essential information to the Chief of Staff and Operations.

Company School

The objectives of the Company School have previously been given. The companies directed to attend the Company School report with entire personnel excepting those on leave for any reason, or attending other Schools. A chauffeur for each piece of apparatus (and a tillerman for each ladder truck) are left in quarters and Deputy Chiefs of Department detail officers and men to maintain the units in service while Companies are at the School.

Reporting at the School, the Company Commander delivers to the Officer in Command of the School a roster listing all present, and those absent and reasons therefor.

According to the O.A.G., "the degree of efficiency normally maintained in each Company shall be determined by a practical test of the ability of the Officers to receive orders correctly and transmit them properly to their subordinates for execution, and by the ability of the entire Company to perform the practical test conducted by the Officers in Command of the School."

This practical test shall be as follows:

(a) Company Commander shall be required to conduct a regulation roll call
(b) Company Commander shall be required to cause his Company to execute a close order drill in accordance with the instructions contained in the O.A.G.
(c) Company shall be required to perform all of the Fire College evolutions which are promulgated in the O.A.G.*
(d) Each member shall be required to transmit one or more telegraph signals
(e) Any member may be required to describe one or more of the Fire College evolutions

*These total 25 in all. Evolutions must be carried out within a certain time limit (competitive speed evolutions have been discarded).

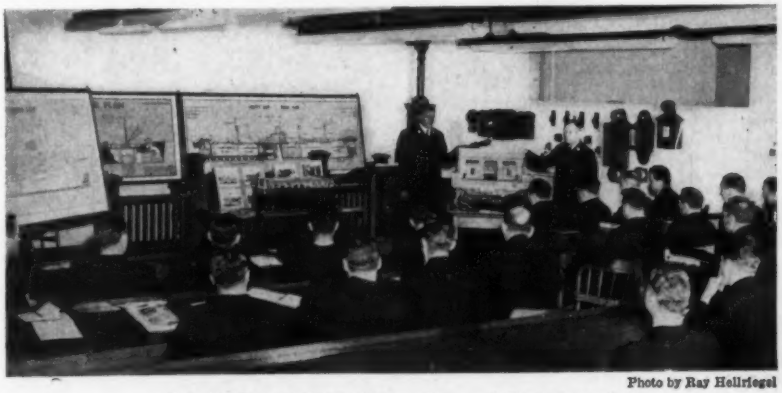


Photo by Ray Hellriegel

Fire Lieutenants Study Marine Fires and Their Control

Deputy Chiefs of Staff and Operation, Edward G. Conway, in charge of the Fire College, and John L. Holian, in charge of the Marine Division (standing, left to right), lecture on marine fires.

The Officer in Command of the School observes the manner in which Company officers receive and transmit orders, and so on, and then determines the degree of efficiency shown. He rates officers according to these classifications: (A) Excellent; (B) Satisfactory; (C) Poor and (D) Failure.

Companies receiving a "D" rating must report again to the School and the Deputy Chief of Department in Command of the Division and the Battalion Chief in charge of the Battalion to which the respective companies are assigned have to do some explaining to Headquarters—in writing.

Probationary Firemen's School

This is made up of all probationary firemen. Immediately after appointment of a new man, he is assigned to attend this School for a training period of 60 days. Days of absenteeism must be made up by later attendance.

The School is conducted daily except Sundays, from 9:00 A.M. to 4:00 P.M. During the period they are attending the Probationary School men are assigned to companies and work a schedule of fire duty, in addition to attendance at the School. This practice was perhaps the first effort made by the Fire Service to inaugurate "training by doing," the idea being to give the men actual "smoke smelling" experience at such hours as they are not receiving instruction in fire-fighting fundamentals at the drill yard.

The courses of instruction at the Probationary Firemen's School include these subjects—

Calisthenics
Care and Operation of High and Low Pressure Hydrants
Care and Operation of Breathing Apparatus, Gas Masks, etc.
Fire Alarm Telegraph Signals
First Aid
Fundamentals of Fire Fighting
General Duties and Responsibilities of a Fireman
Military Close Order Drill
Raising and Placing of Ladders
Resuscitation
Stretching and Operating of Hose Lines
Use of Tools and Appliances.

The Probationary Firemen, upon completion of the course, are given a written examination. After finishing the sixty-day training period at the School the "probies" perform regular tours of duty at their assigned companies for the balance of the probationary period. The Company Commanders send regular reports on them through official channels, and the Chief of Staff and Operations receives the names of all those who successfully complete the course, together with recommendations from the Officer in Command of the Probationary Firemen's School as to the branch of the service for which the graduates are best qualified.

Un-uniformed firemen must provide themselves with the following equipment:

Khaki trousers
Blue chambray shirt (two detachable collars)
Black tie
White athletic shirt
Insignia shield (for athletic shirt)
Khaki laced leggings (Navy style)
Blue serge sport cap
Black leather belt
Black laced shoes
Heavy leather palm grip

Rappoport Photo Courtesy New York Fire Dept.

Simulated Rescues Part of "Proby's" Training

New York was one of the first departments to train its probationary firemen under simulated fire conditions. Here "rescues" are being made by aerial ladder and life lines at Fire College Training Ground, East 68th Street, Manhattan.

Dark colored turnout trousers
Black rubber boots
Leather insoles for boots
Black rubber coat
Fire helmet
Blue flannel shirt
Dark blue overblouse (for winter work)

The O.A.G. prescribes the method and place and time for wearing this equipment at the School and in company quarters. In addition, men must secure a bust photograph (size 2 x 2-in.) of themselves in civilian clothes. These are filed in the records of the School. Immediately after being appointed Fourth Grade Firemen, they must procure and forward a similar photograph of themselves in uniform.

In Service Training

In 1948 an In-Service Training program was set up by Fire Commissioner Frank J. Quayle, with the co-operation of the Veterans Administration. Its purpose is to train veterans of World War II who have not reached the rating of Second Grade Fireman, in the theory, practice and mechanics of fire prevention and fire protection, and is designed to provide a two-year study course. The twenty-four months training in the "On-the-Job" Training School is divided into four periods of six months each.

This course is open to veterans who wish to study for promotion, and sessions are held five days each week at the quarters of Engine 31, 87 Lafayette Street, Manhattan. Members taking the course may make visits to the Fire Alarm Telegraph Central Stations, High-Pressure Pumping Stations, etc., as is done with enrollees of the Fire College. All training is under the supervision of Battalion Chief Thomas M. J. Smith, who reports directly to the Commanding Officer of the Fire College, and who is assisted by a corps of Lieutenants.

The "Machinery" of the Fire College

The Fire College is located in the magnificent new Fire Department building on Hunters Point Avenue, 34th to 35th Streets, Long Island City. There is no campus, no dormitories and no *alumni*.† Nevertheless, it is a very busy place five days out of the week.

Classes are held in a spacious lecture hall, fully equipped with blackboards, moving picture projectors (the College has a large library of sound and silent films), scale models of buildings, docks and piers, a complete fire alarm set-up —including all types of boxes and Fire Station equipment—charts, diagrams, and other accommodations. In the apparatus room of the Museum, on the same floor, is a vast array of facilities, tools and equipment used in the Department.

A trip through this part of the College is a Cooks' Tour of electrical and heating equipment, ventilating and cooling fans and systems, all types of ducts and dampers, automatic sprinkler systems, etc. There are "cut-away" high and low pressure fire hydrants, and fire apparatus pumps; standpipe siamese connections and valves. As refrigeration and air conditioning are major "headaches" for the Department, there are working models of different types of these systems.

In a separate section the hazards of gasolines and other flammable liquids are demonstrated, together with the various types of safety containers. The array of gas shut-off wrenches and devices is impressive (the use of high-pressure illuminating gas has greatly increased in all Boroughs of New York). So too, is the exhibition of forcible entry and attack tools, first-aid and life saving equipment. The particularly pestiferous "Fox lock," which has been the subject of many examination questions is there, with other examples of fastenings with which firemen must cope.

Latest masks and breathing apparatus are at hand for College students, together with considerable data on the use, maintenance and care of the different types.

On days when instruction is given in First Aid, the Fire Department Ambulance No. 1 reports at the College, and on certain days of the College schedule, Rescue Co. No. 4 comes in with its apparatus and equipment. On other days classes are taken to one of the High Pressure Pumping Stations, and to the berth of one of the ten Fireboats—usually to Engine 57, the *"Firefighter."* Instructions in operating Pumpers and Water Towers are given on the water front.

Museum Houses Priceless Heirlooms

The Museum of the Fire Department of the City of New York came into being in 1934 when Deputy Chief of Department George L. McKenna was designated Assistant Chief and assigned in command of the Fire College. Chief McKenna was the son a fireman and, having been raised in a Fire Department atmosphere, he was intensely in-

†Actually, there is an alumni. It is made up of the hundreds of Fire Chiefs and other officers and firemen who have come from every part of the world to "take the course."

terested in the history and traditions of the Department. Believing that the historical records, mementos and apparatus of the Department should be collected and preserved insofar as possible, Chief McKenna began a search for, and collection of records and other items of fire protection *incunabula* which would be both interesting for their historical value, and useful in the work of the Fire College.

Photo by Ray Hellriegel

"Curator" Walter Beatty at 1898 Model Watch Desk

Original hand-crank telephone and telegraph set, showing "joker" bell and keys for "taps."

In this work, Chief McKenna was fortunate to have the services of a member of the Department who had an unusual background of historical knowledge of the Department and its early facilities. He is Fireman Walter F. Beatty, who came from a family of firemen and who had assisted Henry Ford in the collection of items for his famous Dearborn museum. Fireman Beatty came to the Fire College from Ladder 116 in July of 1935, and has since served as Curator of the Department's collection, assisted by active and honorary members of the F. D. N. Y. In 1935 the Museum was scattered about the leased building in which the College was then located, not far from its present site. When the new Fire Department Shops building was designed, a portion of the structure was given over to the Fire College and a section set aside for the Museum. In 1947 Deputy Chief of Staff and Operations Edward G. Conway was placed in charge.

The Museum is not only a great asset to the Fire College, but its worth has been demonstrated in other ways. It has done much to "sell" the world's largest Fire Department to the people of New York, and to many of its visitors. Much of the material was on exhibition at the New York World's Fair in 1939 and 1940. Many of its relics are sought for motion pictures and as source data by writers of articles on fire control. Shows, parades and spectacles—and lately many television programs—have been enriched by inclusion of exhibits and items from the Museum.

Its value in other public relations work likewise has been attested. Although the Museum is not easy to find in the web of Long Island City's busy thoroughfares, nevertheless it is being sought out on an ever-increasing scale by firemen and buffs, Scout Troops, Service Clubs, school children and college students, writers, artists—and just plain housewives and business people who have learned of it.

The collection at the Museum is unequalled and is a never-ending source of pride to the members of the Department. Many, like the postman on his holiday, spend off-duty hours pouring over the fascinating records of the "dear dead days.' '

Incidentally, the Museum is open to the public without charge, and some member of the busy staff is always ready to pilot the "tour."

The Library and Historical Room contains, in addition to current journals and technical books of the Fire Service, a large collection of documents, reports, pictures, certificates, etc. Several models of hand-drawn and horse-drawn apparatus; torches, signal lights, helmets, badges and uniforms; panels from old hand pumpers decorated with oil paintings; pieces of wooden water mains dug up from the streets of old New York; ancient fire alarm boxes and gongs; and a splendid collection of trumpets and early fire fighting tools.

A number of large oil paintings of former Chief Engineers and Chiefs of Department grace the main corridor of the College and attract the attention of visitors going from the Historical Room to the Apparatus Room of the Museum.

In this latter space are fire fighting apparatus from the early "goose-neck" hand-pumpers; hand-drawn hose reels; four horse-drawn and one tractor-drawn steam fire engines, some of which served at such famous fires as the Brooklyn Theatre, Equitable Building, etc., and a horse-drawn Gleason & Bailey ladder truck. One of the steamers is equipped with three-horse hitch, complete with hanging harness and regulation steel horse collars (one of the very few sets of such harness in existence.) This steamer is a first-size LaFrance, formerly in service in the old Brooklyn Department. It bears the number plate of B.F.D. No. 8, where the father of the present Fire Commissioner, Frank J. Quayle, was Engineer of Steamer.

Two of the old steamers are familiar to countless New Yorkers because of their appearance in local parades. One, a horse-drawn steam fire engine of the "Gay Nineties" era was spotlighted in the City's Golden Jubilee parade of 1948. The other steamer, which also makes many appearances on the city streets, is a first sized Metropolitan, with front-drive tractor. Originally horse-drawn, this steamer was fitted with tractor in 1915.

One of the most unique pieces of apparatus in the Museum is a hand-drawn Waterous pumper with rotary gear pump driven by a single cylinder kerosene engine. This oddity came from Staten Island, where it was used by the vamps before the paid organization was set up in the Borough of Richmond.

In one corner, one gets the illusion of an old time Fire Station with its watch desk, crank handle magneto type telephone and old style telegraph instruments and mechanism for releasing the horses from the stalls. The wooden horse in the shafts of the chief's buggy is on loan from the Museum of the City of New York.

Another exhibit which attracts much attention is a section of a fireboat deck with the pilot house equipment from the old Zophar Mills which was built in 1882 and condemned in 1934.

Just how many hundreds of relics and other treasures there are in the Museum has not been revealed, but one thing is certain, it is a fascinating display and little wonder that firemen—paid and volunteers, come by bus, train and boat for miles around to enjoy it.

To keep this array of chromium, nickel and brass and the other bright-work in the pink is no easy task. But it is done, and well done—largely as a labor of love by the staff. It is to be hoped that as the years pass, this collection will continue to grow and that it may be preserved for posterity and not only the Fire Department of the City of New York, but of the world.

Photo by Ray Hellriegel

Another Section of the Museum's Historical Room

Rare fire insignia—badges, shields and trophies and "memorabilia" of the early days of the department delight researchers. Note bound copies of FIRE ENGINEERING are preserved for the record.

How One Fire Department Reduces Smoke Damage

Fargo, N. D., Firefighters Use Ventilation Effectively and Then Remove Odors by Chemical Spraying

By FRED J. WELLS
Chief, Fargo Fire Department

The following article consists of excerpts of a paper presented by Chief Fred J. Wells before the Fire Department Instructors' Conference at Memphis, Tenn., January 10-13, 1950. It contains so much useful, and novel, data for fire department officers that it deserves careful reading. Appreciation is expressed both to Chief Wells and the Fire Department Instructors' Conference for making this paper available to the fire service through the columns of this journal.—The Editor

THE first consideration given to the removal of smoke at a fire was when a few bold fire chiefs stood their ground when they were being ridiculed and condemned for doing what we today call "ventilation." Present day experience proves these few individuals were right or correct in their thinking.

We learned, where a building was unprotected and the wind could enter from one side, pass through the building and out the other side and *had we opened at once,* that we did not have the smoke damage present after the fire as we did where such an arrangement and conditions for the removal of smoke were not present. Our conclusion here was that smoke damage can be reduced by a fast removal of the smoke from within the building.

Approximately 94 per cent of the fires we fight are extinguished with something smaller than a 2½-inch line. The next 4 per cent of our fires are extinguished with a 2½-inch line. The remaining 2 per cent are extinguished with everything you have and that which you can borrow from your neighboring cities.

Hand Sprayer Employed by Fargo Firemen for Deodorizing After Fires

The dollar and cents relationship between fire damage and smoke damage cannot be formulated with any degree of consistency or accuracy. However, records show we can always look forward to smoke damage leading fire damage insofar as our fires of the 94 per cent classification are concerned.

To our way of thinking, the extinguishment of most fires would be a simple problem or operation if we could readily remove the smoke, heat and gases from the areas of advancement to the fire.

From the foregoing we say, every fire falling into the classification where it can be extinguished with something smaller than a 2½-inch line should be ventilated or opened up at once. "At once" means when the line or lines are in position and the water is at the nozzle.

We also say, that where only one 2½-inch line is needed and you feel you can make proper extinguishment with one line, the proper move is to ventilate at once. It appears that over 90 per cent of the fires in this classification can be put into the same class as those we just mentioned previously in the 94 per cent classification. Mathematically this 90 per cent is equal to 3.6 per cent of the total 4 per cent in this classification or group of fires. Now by adding this 3.6 per cent to our 94 per cent, we obtain a figure of 97.6 per cent, representing the total percentage of all fires that fall into a classification we say, should be opened up immediately.

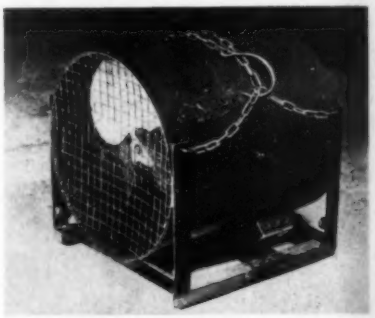
Any fire falling into the last 2.4 per cent of the fires we fight definitely demands ventilation, but the *when, where* and *how* of the ventilation changes in scope to where it removes itself from the field of smoke damage to the prevention of fire damage and the spread of fire. The only place where smoke damage enters the operation in fires of this classification is where exposures and the contents of same will be affected by the smoke of the fire.

Mechanical Extractors

We know from our experience that natural ventilation is not sufficient nor is it enough for the speedy removal demanded if a reduction in smoke damage is to be desired. This is particularly true where a high cubical content of smoke is present. Also we can not always depend upon it for a complete removal because wind velocity and direction and atmospheric conditions may be against us.

To overcome this inefficiency, what are we going to do? Smoke extraction through and by the use of mechanical smoke extractors is the answer. The idea is not new and the credit for the use of the first smoke extractor goes to the Minneapolis Fire Department, when in 1915 or 1916 Chief Ringer put a large homemade one into use.

Today there are several different makes and models on the market. All of them that we know work well if properly used. When properly used at a fire, they are the most valuable piece of equipment a department can have for the overall reduction of fire loss figures.



Front and Side View of Smoke Extractor Used at Fargo

We have one extractor rated at 1,000, four rated at 3,500 and one rated at 10,000 C.F.P.M. Extractors are carried so as to have them all at a fire in the downtown district on first alarm assignments. In the residential areas we have three available for use. If we need more, we use two-way radio and obtain them from trucks not on call.

During the past year and a half we have reduced our smoke damage claims on an average of 40% through the use of smoke extractors. On several occasions, 100%; *or in other words, no claims paid or submitted.*

The above statement is not based on fire department estimates of smoke damage reduction but has been taken from statements of our adjusters and adjusting companies.

Just how have we been able to accomplish this reduction in smoke damage?

There are three ways to bring about or cause a dilution to occur in an atmosphere of smoke. (1) By a rapid removal of the smoke from within the building; (2) by blowing large amounts of fresh air into the building; and, (3) by a combination of the first and second method. We have and do use all three ways, but always start our operations using the first, or as rapid a removal as

possible. This we do to lessen the amount of smoke which otherwise would remain in contact with the materials and contents within the building. Let us not forget, *smoke does not hold its heat long.* Hot smoke will quickly give up its heat to walls, floors and contents in contact with the smoke. We are of the opinion that *temperature plays a mighty big part in the penetration of smoke into materials, deposit on materials and insofar as the retention of smoke odors themselves are concerned.* Hot gases, both those from the fire itself and those from distillation caused by the fire, appear to be closely related to the cause why sometimes smoke odors are more cutting and irritating to one's breathing, even as long as two or three days after the fire has been extinguished. This is particularly true where a fairly high cubical content of distilled gases has entered an exposure at a temperature just about equal to the ignition temperature of ordinary paper and were cooled when they came into contact with the contents of the exposure.

Possibly the best illustration we can give, to show the results of a fast removal of smoke, took place at a fire we had in a general warehouse. The value of smoke extractors for a fast removal of smoke was shown here clearly. The fire was on the first floor in and around the lay-by room. Around the lay-by room were stored linoleum, rubber goods and other items of materials that are producers of heavy smoke when they are burning. The fire originated in the waste paper box on the outside of the building, burned its way through the middle crack of a double door which was not being used, and communicated into the lay-by room; from there, outward into the linoleum and other items named and finally went up the elevator shaft.

Upon arrival of companies, building was heavily charged with smoke on the first floor, and second floor was filled to the point that required masks for entering. As soon as lines were laid, a hole was cut into the roof of the penthouse of the elevator's shaft. This was done to hold fire in its present location, by allowing it to have an almost vertical path to follow. Immediately upon opening the penthouse roof, men with lines were able to enter the first floor and surround the fire. While this was in progress, orders had been issued to take the ten thousand C.F.P.M smoke extractor to the roof proper, get a hole into the roof and to place the suction tube of the extractor into the second floor, even with the ceiling of the second floor, and to get all windows possible open for an intake of fresh air. At this point I quote from a letter received from Main and Baker, adjusters for the companies: "You and I stood in the alley and watched your boys work that Sunday afternoon with gas masks and yet how surprised we were, after the fire was over, that we could walk through the second floor of this building filled with over-stuffed furniture, floor lamps and other cloth materials which showed practically no smoke deposits. This was brought about by your ingenuity in cutting a hole in the roof and dropping the extractors through into the second floor, eliminating the smoke so rapidly that it left no deposit."

There was also a definite amount of evidence to show that temperature plays a big part in the penetration and the ease in which smoke odors can be removed. Smoke odors on the second floor disappeared long before those on the first floor. We also found evidence where even a difference of 40 feet in the locations of the same type and class of material made a difference in the degree of smoke penetration into the material. Material which was 40 feet closer to the fire had the heaviest smoke odor. Both locations were such that the actual fire had no direct bearing on the material, except that the temperature of the smoke at one location was higher. No claim was made for discoloration by smoke on walls, ceiling or contents on the second floor. Marks showing where condensation had taken place on the second floor could not be found.

Now we come to method number two: blowing large amounts of fresh air into the building. We use this type of dilution where we are operating in attics or places where we are trying to head off a fire. It is primarily used to provide fresh air for the men working. However, another idea behind this method is to try and keep the temperature of the smoke as low as possible, or cool it off as it comes into spaces where we are working.

To illustrate this, we will review a fire we had in a residence. Fire originated in the basement in a concealed space behind wainscoting. It communicated into another concealed space, upward to first floor, around, and through still another concealed space into a vertical opening to second floor. It appeared on the start we could head it off in the basement, never dreaming of such conditions as we found in the end. As soon as a hole was made in the basement partition, allowing a natural chimney to begin its action, fire fighting operations advanced to the second floor. First floor remained practically smoke-free due to our extractors working on and off the first floor changed from the basement to the sec- in the usual manner. When operations changed from the basement to its second floor, it was found the second floor was filling fast with smoke, making it impossible for men to work there.

A smoke extractor was set up in a window of the room we wished to work in. Another window was opened in the bathroom directly across and off the room where the hot spot was showing up. As soon as the extractor was turned on, men were able to advance into and work in the room with an axe and the booster line. Several cuts with the axe and a few shots from the booster line gave the results we wanted. All this sounds easy, but had it not been for the supply of fresh air giving a fast dilution for an immediate advance, our fire damage and smoke damage would certainly have been a good deal greater. In this particular fire, the fire damage was greater than the smoke damage. Actual smoke damage was held to smoke odors arising from cool smoke having made contact with the contents.

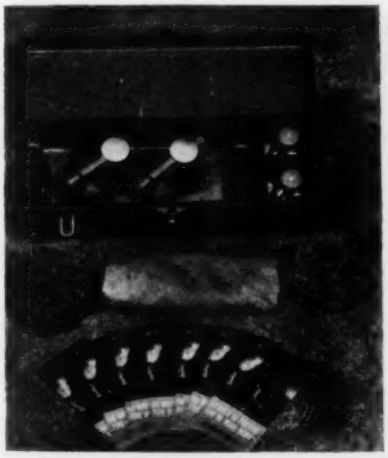
Our last method, or number three: This method of dilution is used almost as often as method number one, if you wish to count the methods in use at the time we are about to finish our operations.

It might be well to mention that where you have a fire burning on a floor which is large, it is well to try and keep the areas, which are clear of smoke on your arrival, in a like state during the time the fire is being extinguished. This can be done by using method number one and number two together which gives, as we said before, method number three. The most important thing to remember when using method number three is: from what direction is the wind blowing.

From our use of mechanical smoke extractors, we have learned they too have their limitations and that you must not expect to do the impossible; also that you can cause certain things to happen, some good and some not so good. In the hope that it might be of help, I will mention two of the bad things you can do with smoke extractors if they are not used properly. First, where you have an oil burner explosion and the soot is fairly thickly deposited throughout the home or store, look out or you may end up with a far worst condition than when you started. Always use method number one here. Never use either of the other two methods. By using method number one you may be able to remove a fair amount of soot still floating in the air and that which might be lightly deposted on contents close to where your extractor is hanging. I do not believe it is necessary to tell what might be the outcome if you started blowing a lot of air into a house that has soot lightly deposited upon the contents. If you want to take care of the soot from an oil burner explosion in a home, get a vacuum cleaner. By holding the suction head approximately one-half inch away from the material upon which the soot is resting, you can remove a very high percentage of the soot without leaving a mark.

Second, one of the most important things to guard against, whether you are using mechanical or natural ventilation, is to avoid ventilating a building in any manner such that fire could be drawn horizontally through areas of the building which would not be involved if the heat and smoke were permitted to escape along a natural route.

As long as we are speaking of "Don't," it might be well to say one or two other things that might be of help to someone. We believe it is a very good practice, when arriving at a fire which appears hard to locate, to try to determine whether the smoke is hot or



Fishing Tackle Box in Which Sprayers and Deodorant Are Carried at Fargo. Note Other Items for Cleaning Up After Fire. Before Firemen Return from Residential Fire They Always Leave a Copy of "The Fire Safe Home" and "60 Ways to Prevent Fires in the Home," Two Fire Prevention Pamphlets

cold. If the smoke is cool, take it easy, because nine times out of ten when the fire is located you will find some type of a small smoldering fire. The law of averages will still hold here in your favor for a fast removal, but remember that the same smoke in one building may be coming from the building next door, and there may be conditions between the two buildings that would allow the fire to be drawn into the exposure by a rapid removal of the cool smoke from the building that appears to have the fire in it.

Try and keep the smoke on the move, or stirred up, and off the contents. As long as it is not in contact with contents it is not causing damage to them.

Smoke removal from buildings classified as exposures demands full and careful consideration. There are so many variable factors it is very hard to set up any definite procedure. Some of the factors that enter the picture are: (1) Type and location of exposure; (2) amount of and quality of fire resistance built into walls separating building on fire and the exposure; (3) possibility of fire communicating into the exposure; (4) direction and velocity of wind; (5) availability of manpower; (6 size and extent of the fire in building burning; (7) where extractors will do the most good; and, method of extraction.

So far, we have been only dealing with ventilation for the removal of smoke from a building for the reduction of smoke damage. Should we stop at this point when we can obtain further reductions in smoke damage? We say "No," and that is just what we have been doing the last year. I just wonder how many fire departments carry and use deodorants on all inside fires.

First of all, let me say we do not intend to lead any one into believing that you can do the impossible. However, we have during the last year knocked out several bad smoke damage claims before they materialized into claims.

In order to bring two or three cases into one summary for your information, we will quote from two letters. Both cover the same fires and the writers are with different organizations. The first is from Warner Company, signed by Mr. C. McDonald, Vice President. He says: "I have run smack into three deals that you have handled these past two days that I think warrants the highest commendation. Your use of chemicals which I believe is 'Air-Wick,"* at the Moody Department Store and the Hughs Department Store and the Dutch Maid Ice Cream Co. was nothing short of miraculous. In the instance of the Moody Department Store, there was considerable smoke, and through the use of your blowers and 'Air-Wick'* there is no claim on the stock of merchandise. The same thing is true of the Hughs Store." *Air-Kem. —Ed.

The second letter is from Main & Baker, adjusters for the companies, and is signed by Mr. Vern Noble, general manager. It deals with the Moody Department Store. "We visited this store with one of the insurance agents about an hour after your boys had left and there was no trace whatsoever of any odor in either the first floor or the second floor which naturally meant that a large stock such as carried in this store was not affected, and was music to the ears of the owner, the insurance company and the insured alike in coming just at the Christmas time."

Speaking in an unbiased manner, we believe, insofar as the Moody fire was concerned, we saved our year's loss report approximately $6,400. The Hughes' Store might have run over $1,800 but we will say $1,800 to be on the low side. Together that is $6,400 in two calls. The Dutch Maid fire, which was small, would possibly add another $500, making a grand total of $6,900 in our yearly fire loss record we did not have to show. We could go on for the next several paragraphs and tell of cases where no claims were made; and where they were, there was a considerable reduction in the amount paid; also one or two cases where there was a direct saving to owners who were not covered by insurance.

With regard to the methods we use, on our service truck we carry a large sized fishing tackle box with the trays removed. In this box we carry two spray guns, each holding a pint of our deodorant. In addition to our spray guns we carry 3 pint bottles and 2 half pint bottles for refilling the spray guns. Each bottle is equipped with a wick just like the "Air-Wick" bottles are. Just as soon as the fire is overhauled and the final clean-up is finished, we go to work with our spray guns, spraying in every room in the house or building that has any evidence of a smoke odor. By using our smoke extractors as pushers, we are able to distribute our spray fairly evenly throughout a room or floor.

It might require two, and sometimes three, complete sprayings. By that, we mean as soon as all the rooms have been sprayed, we start over again and go through the house or building.

Spraying includes spraying of furniture, clothes in closets, inside dresser drawers, by opening same and shooting several shots into each drawer and then closing the drawer again. Bedding is sprayed, particularly the pillows. An extra heavy application is given to the area of burning, directly onto the char itself. If the woodwork is burned beyond salvage, it is best to remove the char or woodwork from the building and save the deodorant.

The amount of spraying is generally determined by the concentration of the smoke present. Type and kind of smoke, whether it was of a high or low temperature, will also vary the amount of spraying needed.

There have been times when we have been asked to come back a day or so after a fire to give another spray job, as the odors started to appear again; or, in other words, we did not guess right as to the correct amount of spraying. Our experience in cases of this type leads us to believe that there is a definite limit in effectiveness of spray application. After a certain point is reached, and it is very hard to determine that point, it seems that no amount of additional spraying will aid in a further reduction. We have found that several light sprays are better than a heavy spray. When you start heavy spraying, there is a tendency toward an overly sweet smell in the home or building, which is not liked any better by some than a light odor of smoke. At times when we have oversprayed, we would dilute the concentration down by allowing our extractors to run, pushing fresh air into the room or building until we have what we think is the proper balance.

There will be times when only a slight smoke odor will be present after we finish our spraying. Instead of going over the place again, we will take two or three of the bottles containing the wicks and set them in the room or rooms where the odor is the strongest. We will leave them there until the next day at which time we will go back and

(*Continued on page* 204)

Insular Fire Service of Puerto Rico Boasts New Aircrash Unit

Chief Raul Gandara and the "Aviation Division" of Puerto Rico's Insular fire force displays newest crash truck before Pan American Clipper. Unit has a 500 GPM centrifugal pump; 1,000-gal. tank; 70-gal. foam tank; carries 300 ft. 2½-in. and 400 ft. 1½-in. DJ hose. It is manned by a crew of 8 (4 chauffeurs, a sergeant and a district chief: on duty 24 hours). Also carries trailer of ten 100-lb. cylinders of CO^2. Chief Gandara is shown in photo against rear wheel.

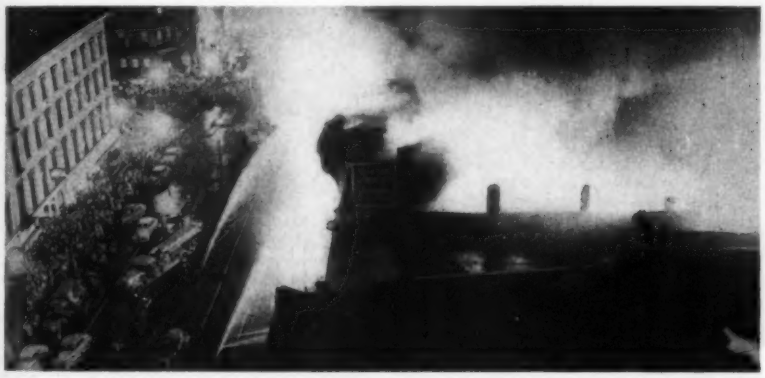
DAYTON FIREMEN WHIP BIG FIRE THAT THREATENS HIGH VALUE AREA

Forty-Three Firemen Hospitalized, Many Others Treated in Gruelling Six-Hour Struggle; Loss $500,000

A Staff Report

Editor's note: **The information upon which this account of the Clegg Building fire in Dayton, Ohio, is based was furnished by the Dayton Fire Department, Chief Joseph A. Kirby and R. B. Kurfiss, Chief Inspector Bureau of Fire Prevention of that Department. Special acknowledgment is also made to the Department for the excellent photographs of fire control operations.**

A COMBINATION of circumstances, including that of the usual "delayed alarm", conspired to give Dayton, Ohio, its worst fire in years, both in point of property loss and in problem of control and extinguishment. Before the seven-hour struggle was ended, 48 Dayton firemen had received hospital treatment for smoke inhalation, exhaustion and other injuries. Only the stubborn fight put up by the Department prevented a possible conflagration in the city's high value district.



View Showing the Building as the Fire Broke Through the Roof. Heavy Streams Are Being Placed in Operation

The fire occurred Friday evening, Jan. 6, 1950, in the premises of the Virginia Cafeteria, located at 28-30 East Third street in what is known as the Clegg Building, an 80-year-old, 4-story brick composite structure, a part of which had been remodelled about a decade ago. The walls were brick, floors 2 x 14" joists, double 5/8" tongue and groove hardwood, and 1-2" terrazzo. An open stairway led from the basement to the main floor and upper floors. This was not continuous and, above the first floor, did not contribute materially to the spread of the fire. The roof was composition on wood, with open joists in the attic.

Although occupied principally by the Virginia Cafeteria, two other firms had space on the first floor and in the basement. These were the King Drug Company, 30 East Third, and the G. R. Kinney Shoe Co. at 34 East Third.

West of the Clegg Building, at 26 East Third, was a three-story brick composite of about the same age as the Clegg structure, occupied by Beerman's Youth Center. This building had at one time been sprinklered, but the system was discontinued when the previous tenants moved. The exposure to the East consisted of a three-story brick composite, at 36 East Third, occupied by the Thom McAn Shoe Company. Beyond were the properties of the Kneip and Bowen Meat Market and the National Meat Market, at 38-40 East Third.

The fire apparently originated in a frame enclosed woman's locker in the locker room at the rear of the Cafeteria basement. The lockers were wood, framed with cardboard partitions back and top. Evidence indicates that sparks from a cigarette, in some clothing placed in a locker, started the fire, which smoldered in the wrapped garments, then finally burned through the cardboard partition to become visible.

One of two women in the locker rest room discovered the fire about 6:15 P.M. and notified employees in the kitchen upstairs, the other employee attempting to save her coat from an adjoining locker. She then went upstairs and also reported the fire. Women employees attempted to descend the single stairway to the basement and locker room, but heat and smoke forced them back. There was no effort by the women who discovered the fire or any other employees to use fire extinguishers which were available.

A bus boy obtained a coin from the cashier and attempted to phone an alarm from a pay phone in the rear of the restaurant but found the line dead. Apparently the fire quickly burned through telephone wires, which extended across the ceiling of the locker room. The boy then ran to the second floor, notifying another boy of the fire. The latter phoned the Fire Department from the second floor. Meantime, a Sergeant of the Dayton Police Department, in the serving line at the cashier's station, hearing of the fire, attempted unsuccessfully to use the burned out telephone, then ran the half-block to Police Headquarters, where he telephoned an alarm. The Department received the two phone calls almost simultaneously. These were clocked at 6:21 P.M.

First Company Unable to Make Basement Stairs

The ten minutes or more lost through delayed notification of the department permitted sufficient involvement of the basement so that it was impossible for the crew of Engine 4, first due unit, to work its line through the front door and down the single basement stairway at the rear. There were no other immediate avenues of approach to the fire. The charged condition encountered at this juncture forced the men back and they and the crew of Engine 6, who also attacked through the front, were thwarted in hitting the body of fire. Members of

Another Fireman Near Collapse at Dayton Fire

Despite use of masks and other respiratory equipment, Dayton fire fighters suffered punishment in controlling half-million mercantile fire. Heat and oxygen deficiency took heavy toll.

Engines 2 and 3 meanwhile were attempting to gain access to the structure in the rear and through sidewalk openings.

Some of the men of Engines 3 and 4, ordered to attack through the sidewalk freight elevator shaft, encountered a minor smoke explosion when the doors were opened. Two men of the crew of Engine 4 were burned. The opening failed to relieve the charged condition of the basement and none of the fire fighters could work into the locker room.

Masks were quickly donned by firemen and other efforts made to penetrate the smoke and heat, but without success. Holes were then cut in the restaurant floor. This proved difficult because of the terrazzo and metal lath construction. Via radio, a special call was sent for the department's air compressor, jack, hammers and operator. Using this equipment, the floor was quickly pierced for distributors and cellar pipes. These proved ineffective however, because of involvement of the basement, and the type of construction making it impossible to gain reach and penetration of the streams.

Lines were placed on all floors of both the fire building, and of adjoining structures, as successive departmental units responded on the second alarm and additional calls. A telescopic cellar pipe was operated at the front of the building to drive back the basement fire, but this proved unavailing. Because of the unfavorable weather conditions,* and the burning materials (including several thousand restaurant employees' garments), firemen, although equipped with masks, had difficulty maintaining their positions in the fire building and adjacent to it. Even when worked in relays, the men continued to drop, to be dragged to the outside by their fellow firemen. The construction of the first floor was such that almost all of the heat and gases from the fire were confined in the basement, and as the fire progressed a condition of oxygen deficiency increased which in turn added to the volume of smoke. This combination of lack of oxygen, extreme heat, high carbon monoxide content, and density of smoke succeeded in knocking out firemen equipped with masks in a relatively short period of time, according to Fire Department reports. Firemen were even overcome in the adjoining basement of the King Drug Company and Kinney Shoe Store where there was no actual fire.

*At 6:30 P.M. temp. was 30°F.; humidity 97%; wind N.W. light. Drizzling rain and sleet. Temp. dropped to 27° at midnight. Heavy atmospheric conditions held down smoke and impaired visibility.

Attack Maintained—But Defensive Measures Taken

As it became apparent that the Department was not going to be able to control the fire in the basement, steps were taken to prevent its extension and protect exposures. Large streams were placed in readiness for use when the floor collapsed. Three deluge guns supplied by two or three 2½-inch lines each, equipped with large-size nozzles, were located in the front of the building. One deluge gun was placed in Market Street in the rear of the restaurant and one on the second floor of the Municipal Market House at the rear. Three aerial ladders equipped with turret nozzles were positioned in strategic places in front of the building on Third Street. Each of these turret pipes was fitted with large nozzle supplied through two 2½-inch lines siamesed into a 3-inch ladder line. Three 2½-inch lines were located on the roof of Beerman's, one on the Hollencamp Building on Jefferson Street, and one each on the second and third story roofs of Hollencamp Building.

When a portion of the Cafeteria floor collapsed turret nozzles were placed in operation, however, at this time the fire had communicated to the flooring of the second floor through the hollow space surrounding the cast iron columns that had been boxed in. When the fire broke through the second floor, turret as well as deluge guns were used to slow, if not control, its extension. A collapse of a portion of the first floor gave vent to the fire, which in turn caused the collapse of a column supporting an "I" beam of the second floor. This permitted a more rapid spread of fire to involve the rear portion of the second and third floors. The heavy streams from the deluge guns and turret nozzles prevented the fire from involvement of more than about one-third of the Clegg Building and prevented its extension to adjoining structures.

The fire was ultimately tapped out at 9:19 A.M. on Saturday morning, Jan. 7, 1950, although firemen continued to maintain a careful watch for some time later.

Summary of Operations

There was no lack of water to fight the fire. Multiple outlet hydrants, each with three 2½-inch and one steamer outlet, were located on each of the four corners at each street intersection and mid-way hydrants, on each side of the street in the center of the block. Water mains in this area consist of 10-inch mains on Main and Jefferson Streets tied into and fed by feeder mains of 16, 20 and 36 inch size. Although fourteen pumpers were located at the fire, water supplies were ample.

Ten pumpers were placed in pumping service and supplied thirty 2½-inch lines through a total of 12,800 feet of 2½-inch hose, and 1100 feet of 1½-inch hose. There were 699 ft. of ladders used during the fire and 38 tarpaulins spread in salvage work. Apparatus responding consisted of three 65, one 85 and one 100 foot aerials. Ladders 3, 11 and 13 mounted and used their turret guns. A total of five deluge guns were used and the combination of turret guns and deluge guns furnished large volumes of water at an average pressure of approximately 55-80 lbs. City authorities estimated the total water used in extinguishing operations exceeded 3000 tons.

An unusual feature of the fire was the fact that of 135 firemen (uniform rank) subject to recall, 133 responded on recall from their days off.

Conclusions and Lessons

The conclusions reached by the officials of the Department following this fire are worth repeating: "This fire," states the Report, "is another example emphasizing the importance of modern regulations requiring the installation of automatic sprinkler protection in the basements of mercantile establishments in the high-value districts. Many structures exist which are of combustible construction; some have large quantities of combustible storage or stock; some that are relatively inaccessible, due to the fact that a limited number of stairways provide access to the basement areas and many are so located that it

(*Continued on page* 204)

Operation of Deluge Guns and Turret Guns on the Virginia Cafeteria Fire. Frontal Attack Has Reduced Fire on East Third Street

CHRISTMAS TREE BLAZE STARTS CONFLAGRATION—TWO DEAD

Firemen From Four States Struggle To Save Hyndman, Pa., in Costly Day-Long Blaze

A Staff Report

Editor's Note: **The Christmas Day fire in Hyndman, Pa., described in this report was one of the most destructive, fatal Christmas fires of the past decade. It was fought by firemen of four states and it emphasized the fact that, despite nationwide fire prevention efforts, the potentially deadly Christmas tree is still with us.**

FIRE ENGINEERING is indebted to the many correspondents who submitted data on this fire. Special acknowledgment is made to Cromwell Zembower, President, Alleghany and Garret Counties' Volunteer Firemen's Association, LaValle, Md., for information on the work of 17 fire units (including two ambulances) from his association which operated at the fire.

CHRISTMAS, 1949, was highlighted by the destruction by fire of most of the business section of the Bedford County community of Hyndman, Pa. (1500 pop.) resulting in the deaths of two persons, injuries to a dozen others and property loss estimated at nearly $1,000,000.

Flames which raged out of control for two and a half hours destroyed the town bank, postoffice, twelve business establishments and nearly a score of homes. Twenty-nine families, including approximately 70 persons, were made homeless.

The fire originated in a Christmas tree in the home of Mrs. Corrine Fisher, 64, who was trapped by the fire and burned to death. Her husband, Somers Fisher, 67, died later from burns received, it is said, in the effort to rescue his wife.

The fire started shortly before 6:00 P.M., Sunday, Dec. 25, and spread rapidly. The little mountain community had only limited fire fighting equipment and the blaze spread so rapidly that it was impossible to remove household effects from some dwellings before they were aflame. The blaze quickly involved the small business area.

Heroine of the fire was reported to be Mrs. Helen Turner, the 21-year-old operator of the Hyndman telephone exchange. When the fire started she was with her husband and small daughter 20 miles from Hyndman. Notified of the fire, she sped to the town. Flames were visible in the night sky many miles away. Without thought of risk she stuck to her switchboard calling neighboring communities for assistance even though the fire reached within 100 feet of her exchange. When power lines burned out, she operated her board by flashlight.

Calls for aid were dispatched to communities within a 50-mile radius by order of Ernest Harden, Town Burgess. Hospitals were also asked to send ambulances. Later, the Red Cross set up headquarters and established the community as a disaster area. All told, 32 pieces of fire apparatus responded to the calls for help, 15 of them and two ambulances from across the Maryland state line.

Towns that sent volunteer firefighters and equipment included: Pennsylvania: Altoona, Connellsville, Somerset, Myersdale, Everette, Bedford, Saxton, Berlin, St. Clairsville, Windber, Johnstown, Pleasantville, Uniontown and Scalp Level. Maryland: Corrigansville, Frostborg, Bowman's Addition, Laval, Ellerslie, Lanconing, Midland, Cresaptown, Barton, Mount Savage and Cumberland. West Virginia: Keyset, Wiley Ford, Fort Ashby and Ridgeley. Virginia: Winchester.

Three volunteer fire men were injured, one suffering a heart attack while fighting the fire.

The water supplies in the community were inadequate to the task and firemen pumped from streams and every other available source. Accounts relate that the fire was fought "in a more or less haphazard way because organization was impossible."

There is no confirmation that dynamite was resorted to to stem the spread of the blaze but it was later used to demolish ruins. Telephone and telegraph lines burned through and dropped to the

(*Continued on page* 205)

Hyndman Residents Attempt to Save Their Belongings

The Christmas Day, 1949, fire roaring through tiny mountain town of Hyndman, Pa. The Post Office, town bank, a dozen business places and score of homes were burned.

Morning After the All-Night Holiday Fire That Ravaged Hyndman, Pa.

Fire was stopped by firemen from four states, but only after most of the town's business district was destroyed. Two persons died, a dozen were injured in the Christmas tree blaze.

LANSING'S NEW HEADQUARTERS HAS MANY MODERN FEATURES

Building a "Symbol of the Spirit of Progressiveness of City and Fire Department"

A Staff Report

ON Armistice Day, 1949, Lansing, Michigan, dedicated its new $600,000 Central Fire Station with fitting ceremonies, participated in by local and visiting civic and fire officials and over 300 citizens. Officiating were Mayor Ralph W. Crego; Postmaster D. D. Harris, member Fire and Police Commission; Paul A. Austin, publisher, Lansing State Journal; C. W. Otto, secretary-treasurer, Chamber of Commerce, and Lansing Fire Chief Hugh F. Fisher.

A special edition of the State Journal was voted to a description of the new headquarters and a history of the Lansing Fire Department.

In his address, Chief Fisher traced the department's historical development, paying a tribute to the late Chief Hugo R. Delfs, Lansing's popular past chief, and a favorite of the nation's fire service, who retired in 1941 from active duty after over 50 years of service.

The new headquarters is a model of its kind and represents the latest thinking in design and construction for this type of structure. It was contracted for in September, 1948, after several years of delay, partly due to the war. It was started in October of that year and finished a year later. The architects were Herrick & Simpson; the builder, Granger Brothers, construction company of Lansing. The building is located at Grand and Shiawassee streets in the downtown district.

The modernistic two-story structure houses both the fire and police commissioners, as well as the fire chief and his assistants. An ornate meeting room is provided for the Board and individual offices for the chief and his secretary. The building is as near fireproof throughout as it could be made. Materials used are steel, reinforced concrete, brick, Indiana limestone, granite cinder blocks, tile, terrazo and marble, and outside doors and windows are aluminum. Liberal use of glass and tile, and latest lighting fixtures is made throughout. The layout of the apparatus floor provides ample room for the aerial ladder, a 1,000 GPM pumper, a High Pressure unit, the First Aid Squad Car, and Chiefs' cars.

The steel and aluminum watchman's desk controls switches and buttons for opening individual, or all appartus doors, traffic control signals in the downtown congested area, indicators to show other apparatus out of service, the inter-com' set and telephones.

The dormitory is spacious, airy and well lighted. A separate dormitory is provided for the officers. Ample locker and wash room space is a feature. Sliding pole holes are protected by latest type pipe guards. Another feature is the glassed-in dining room and kitchen, with modernistic metal and plastic furniture, and tile walls at the rear of the apparatus floor. There is an attractively furnished lounge room, with record player and other equipment, for the men. A class room, 22 x 42 ft., is provided and equipped with chairs, blackboard, bulletin boards, fire fighting tools and equipment, and a 16 mm projector with sound for use in firemen's training. Recreation facilities are also provided for the men.

The full basement under the building affords parking space for fire department vehicles and storage space for certain equipment. Access to this space is by means of a ramp down the south side of the structure, off Grand avenue.

Lansing's New Fire Headquarters

The first department garage and shops are located in a separate building at the rear of the Central Station. The city's communication systems for both fire and police are combined and housed in another building. A $35,000 addition to this structure was completed in April, 1949. The department has five pieces of fire apparatus and six fire department cars equipped with two-way radio.

The new station has lockers for work clothes located on the apparatus floor. A large storage space also is provided for storing hose or other equipment; arrangement is made, too, for drying wet clothing, boots and other personal equipment. A door from the apparatus floor leads to the hose drying accommodations.

The city of Lansing, as well as members of its Fire Department, take great pride in this important improvement to the Fire Department. They have every right to do so for this new headquarters station is the epitome of all that any enterprising fire force could hope for.

Fireman Killed When Tank Truck Overturns

A North Madison, Conn., volunteer fireman was crushed to death on February 20, when the fire truck he was driving overturned pinning him beneath it. The victim, Myron Spencer, 60, was one of a number of North Madison Volunteer Company members responding to a chimney fire.

State Police officers at the Westbrook Barracks said that Spencer was driving a new fire department tank truck carrying a reserve supply of about 1,000 gallons of water. He was alone in the vehicle which followed closely behind the North Madison pumper.

Both pieces of apparatus, police said, were descending a steep hill on Route 80 when they saw a member of the Killingworth Volunteer Company, which also responded ahead of the North Madison crew, waving them to stop at the foot of a hill. When Spencer suddenly applied the brakes, the water in the tank shifted and the truck overturned, pinning Spencer beneath it. He was pronounced dead when a wrecking truck had lifted the heavy vehicle.

TOM MAGNER.

Southwestern Division, I.A.F.C. Meets May 4-6, 1950

Dates for the 1950 convention of the Southwestern Division, International Association of Fire Chiefs, were set at the February meeting of the Executive Board. The dates will be May 4, 5 and 6; the location, Port Arthur, Texas, with the hotel reservations in charge of Asst. Chief Eugene Ray, Chairman, Housing Committee, Port Arthur Fire Department.

Plans call for a rousing reception of delegates and visitors, in which city officials, will join leading oil companies and others to provide unusual entertainment and business features. The banquet will be held Friday, May 5th, the speaker to be State Railroad Commissioner Olin Culberson. Also appearing on the business program will be Col. H. R. Brayton of A. & M. College.

Hotel rates at Goodhue and Sabine Hotels run from $3.00 to $4.00 single, and $1.50 to $4.00 addition for double.

PACIFIC COAST CHIEFS LAUNCH PLANS FOR I. A. F. C. CONFERENCE

Get Early Start With "Kick-Off" Dinner In San Francisco, Chief Walsh Host

PLANS for the 1950 I. A. F. C. Conference next fall started with a bang at the "Kick-off Dinner" in San Francisco Thursday evening, February 2nd. It was held at the Dolphin Club on the shore of beautiful San Francisco Bay, almost in the shadow of Golden Gate Bridge. The host was Chief Edward P. Walsh of San Francisco, who will be host Chief for the Conference. Those attending included chiefs and other interested persons from all parts of the Bay area.

Jay Stevens, Executive Secretary, I. A. F. C., Congratulates Chief Edward P. Walsh, Head of the San Francisco Department and Host to This Year's Convention on Plans for the Meeting

The assembled guests, numbering almost 90, were pleasantly surprised by the arrival of Chief John Alderson, First Vice-President of the I. A. F. C., who flew from Los Angeles especially to be with the group. Other chiefs who travelled a considerable distance to attend were George Magee of Santa Rosa, Jack Wemyss of Modesto, Gayle Coger of Fresno and Ossie Ball of Patterson.

Jay Stevens, Executive Secretary of the I. A. F. C., Rudy Stange of the N. B. F. U., Loren S. Bush of the B. of F. U. of the Pacific, Walter Swanson of the San Francisco Tourist and Convention Bureau and many of the chief officers and members of the San Francisco Fire Department were also very much in evidence.

During the juicy steak dinner, guests were entertained by a musical program offered by members of the San Francisco Fire Department; the dinner itself was also prepared by Department members.

Chief Walsh opened the speaking program by giving a general outline of plans for the Conference. Fire Commissioner Walter Leonetti, representing Mayor Elmer E. Robinson of San Francisco, pledged every possible support by the municipal administration. Other speakers included Fire Commissioner Robert Schaefer, Chief Alderson, Chief Morris of San Mateo, Chief Meinheit of Berkeley, Chief Magee of Santa Rosa, State Fire Marshal Joe Yockers, Rudy Stange, Loren B. Bush, Walter Swanson.

Each speaker pledged support and assistance in every possible way to make the 1950 Conference the biggest, the best, the most informative and the most enjoyable in I. A. F. C. history.

Keynoter of the evening was Jay Stevens, who emphasized the educational aspect of the Conference. He cited the loss of life in many fires throughout the country as an example of what can be done in the field of firemanship education. "Sure, make your Conference the biggest and best in history," said Jay, "and see that everyone has a fine time, but above everything else, give them something to take home."

If the enthusiasm and interest manifested at the "Kick-off Dinner" is any criterion, San Francisco is off to a good start.

January Fire Losses

Fires destroyed an estimated $58,823,000 in American property during January, an increase of 1.5 per cent over losses for the same month a year ago, it was announced today by W. E. Mallalieu, general manager of the National Board of Fire Underwriters.

The January total was 12.6 per cent below the loss estimate of $67,279,000 for December, 1949.

For the twelve months ending January 31, 1950, losses are estimated at $668,433,000. This represents a decline of $37,597,000, or 5.3 per cent, from the $706,030,000 fire loss total for the twelve months ending January 31, 1949.

"While this property damage is staggering," Mr. Mallalieu said, "it is far more alarming to note the number of Americans who are burned to death in fires every day. We must reduce the annual sacrifice of 10,000 lives in fires, most of which could be prevented.

"Many fires are caused by simple acts of carelessness, such as discarding cigarettes without first making sure they are out. Nearly a third of all our fires are traced to that one cause—carelessness with cigarettes and matches. We can save lives, jobs, and property by taking a little extra care."

The reported losses under fire insurance policies include an allowance for uninsured and unreported losses.

Eastern Chiefs to Convene at Lake Placid in June

Plans for the 1950 Convention of the Eastern Association of Fire Chiefs call for the three-day session, June 22, 23 and 24, at famous Lake Placid, N. Y. Exhibits will be located in the arena and exterior court.

An exceptionally fine technical and entertainment program is being prepared by Chief Rudolph Swanson, Jamestown, N. Y., President, and his Committees, and a large attendance is forecast. Chief Swanson is also Second Vice-President of the International Association of Fire Chiefs.

Headquarters will be the Hotel Marcy. Reservations may be made through Harold Leslie, Sec'y, Chamber of Commerce, Lake Placid.

The banquet is scheduled for Friday evening, June 23rd.

FIRE ENGINEERING will publish more complete details about this Convention at a later date. Chairman of the Exhibit Committee is Herbert A. Friede, Superintendent of Communications, Washington, D. C.

Factory Mutual Issues Booklet on Home Fire Safety

Prevention of fires in the home is the subject of a 24-page booklet recently published by the Factory Mutual Engineering Division.

Printed in two colors and illustrated with cartoons, the booklet deals comprehensively with the whole problem of home fire safety. It describes in detail the many ways in which home fires can start and how they can be prevented. Emphasis is given to planning for the safety of occupants in case of fire, and how such fires should be fought, and recommendations are made for the types of extinguishers for home use.

A sample copy may be obtained by addressing the Factory Mutual Engineering Division, 184 High Street, Boston 10, Mass.

I. A. F. C. First Vice-President, Chief John Alderson, Los Angeles, Puts Added Weight to "Kick-Off" Dinner

Believing They Had a Particularly Stubborn Auto Fire, Raleigh, N. C., Firemen Douse Car with Foam. Fire Later Was Found to Be Burning City Gas Connection Under Car.

Students Cheer on Firemen at Odd Raleigh Fire

A plain common garden variety of automobile fire should never have occasioned the messy and annoying problem of fire fighting that this one developed on a busy thoroughfare in Raleigh, N. C., at about 10:15 P.M. the night of Tuesday, Jan. 3, 1950. The episode which gave delight to some 500 State College students—although Raleigh fire fighters could see no humor in it—climaxed the State College basketball game.

It started with an alarm for a fire in a '49 Oldsmobile, the box being pulled at 10:17 P.M. from Hillsboro and Pogue streets, in front of an electrical equipment store.

Responding firemen went to work on the auto blaze in the orthodox manner, meanwhile shoving the car to the side of the thoroughfare out of traffic.

Twenty-five minutes later they were still fighting what appeared to be an unusually stubborn blaze, a goodly aggregation of students spurring them on with appropriate sideline rooting.

To make the long story brief, after the fire fighters, the car and some of the landscape were knee deep in chemical foam, it was discovered that when firemen had pushed the car up on the curb, to get it out of traffic, it had struck a city gas line. The gas, in turn had ignited, and the billowing flame burning through the car was the ignited escaping gas.

Once the mystery was solved, the fire, and the excitement subsided. The firemen returned to quarters about 11:25 P.M.

Philadelphia Compulsory Retirement Considered in Public Interest

Decision of Philadelphia's City Council last December to resume compulsory retirement of firemen and policemen on reaching age 65 and completing 20 years of service, effective Feb. 1, 1950, is generally regarded as a forward step in improvement of the two services.

Philadelphia has had compulsory retirement provisions for personnel of the Fire and Police Bureaus intermittently since Oct. 1, 1930. Partly as a result of wartime manpower shortages, in 1945 the Council suspended the requirement "until six months after cessation of hostilities," permitting men over 65 to continue in service. These reasons no longer exist and the return to mandatory retirement rule was said to be several years overdue.

As of Feb. 1, 1950, records of the Department of Public Safety indicate there will be 183 men 65 years of age or over on the rolls, divided as follows:

Age	Policemen	Firemen	Total
65	30	14	44
66	31	10	41
67	30	11	41
68	16	8	24
69	19	8	27
70	6	—	6
Total	132	51	183

In the Bureau of Fire these men are distributed by rank as follows: Deputy Chief, 2; Battalion Chief, 3; Captain, 9; Lieutenant, 1; Hoseman, 34 and ladderman, 2.

Delehanty Offers Correspondence Course in Firemanship

The Delehanty Correspondence School, through the Delehanty Institute, New York City, has introduced a new promotional study course entitled "The Science and Technique of Fire Prevention, Protection and Extinguishment", designed to make available by correspondence the courses under that title heretofore limited to local students who could attend the Institute in person.

This innovation course comprehensively covers every phase of the subjects in the title and meets the requirements of the New York State Department of Education and the U. S. Veterans Administration. It is the product of recognized experienced instructors in the field of fire prevention and protection, and the Institute's research staff.

The course, which includes 37 separate lessons, with a final test on which the student is rated, is described in detail in an interesting 18-page brochure just published by the Delehanty Institute, 113 East 15th Street, New York, N. Y. Copies are free upon request.

Left: Raleigh, N. C., Firemen Wrestle with Chemical Foam Hopper During Unusual Auto Fire, as State College Students Cheer Them On. Right: Fire Fighters Coat Auto with Foam in Effort to Quell Stubborn Fire Which Later Was Found to Be Fed by a Break in City Gas Main.

Grain Elevator at Minneapolis at the Height of the Fire

Minneapolis Elevator Fire Threatens Wide Area

A raging fire on last Halloween, which destroyed the 7-story Tonka Mills Co. storage elevator in Minneapolis with loss of $100,000, necessitated heavy complements of men and apparatus to prevent its extension over a wide area.

The elevator, which had a capacity of 60,000 bushels and was about half full of oats at the time of the fire, was located at 3808 Dight Avenue, near 38th St. on the Milwaukee Railroad. An attached storage shed with capacity of 100,000 pounds of sacked grain, but which was empty, also burned. Neighboring structures of the Ralston Purina Co. mills and other companies were undamaged, although the 20 mile-an-hour wind swept sparks through the air for blocks.

Three workmen were in the plant when the fire started, about 10:15 P.M. One, on the fifth floor, smelled smoke and went to the power plant below the first floor to shut down the machinery. He then returned to the fifth floor, when there was a terriffic explosion that blew off the roof and turned the elevator into a torch that was visible for miles. Fortunately, he was able to make his escape, as did the two other workers who were on the ground floor.

One of the latter men called the fire department, which recorded the first alarm at 10:15 P.M. from Box 226, 38th St. and Minnehaha.

This brought Engines 21 and 13, and Chief of the Third District. A second alarm at 10:18 from the same box, called Engines 7 and 19; Hose 1; Rescue 1, Chief of the Second District, and a Deputy Chief. The third alarm at 10:20 brought Engines 17 and 5, Ladder 3 and former Chief George Lockhart, who struck a fourth alarm at 10:31, calling out Engines 26 and 1.

Firemen had difficulty operating near the blazing structure because of the heat, but heavy streams were used in an effort to keep down the flying sparks, while other fireman sprayed roofs and walls of houses and other buildings. Residents joined in wetting down their roofs with garden hoses.

According to Deputy Chief Charles Johnson, the structure was doomed before the first fire forces reached the scene. At that time the blaze was visible at the airport, three miles away.

The flaring 'torch' brought vast crowds, estimated at 12,000 persons, despite the 41 degree temperature, requiring extra police on a night when they were heavily pressed by scores of Halloween calls.

The fire department answered three other alarms between the time of the fourth alarm and 2:00 A.M., one of them false. Although the fire was reported under control at 12:37 A.M., additional calls for equipment were recorded at 2:02 A.M, 2:50 A.M. and 3:02 A.M. the following morning. Apparatus remained at the scene for over 24 hours as the ruins continued to smoulder.

Albion Firehouse Burns

Volunteer firemen of the western Erie County Pa., community of Albion stood helplessly by on the night of December 6, 1949, and watched their frame firehouse burn, together with all the town's fire fighting equipment.

The fire hall is located at the intersection of Routes 6 and 18 and was the headquarters of the Albion Volunteer Fire Department, which had social rooms above the apparatus floor whereon were housed two pumpers, together with spare hose and other fire-fighting equipment. One of the units was equipped with a mobile radio unit. The station is usually left unattended at night and no one was reported on hand when the fire started, sometime around 10:00 P.M.

What started the fire remains a mystery but an overheated stove is blamed. The fire had complete control of the apparatus floor and lower part of the hall when it was discovered. Albion Fire Chief Ben Ferguson, one of the first to reach the scene, was foiled by the flames from reaching the apparatus. The fuel tank of one unit had exploded by that time, adding to the spread of the fire.

Firemen, summoned by telephone and messenger, arrived to find the station a mass of fire, and a five-room home and a garage-tire company adjoining on either side, threatened.

Calls for help were dispatched to Girard and Conneautville, and other communities, and aid was not long in

Albion, Pa., Fire Station When Fire Was at Its Height

arriving. Men and apparatus from Platea, Girard and Conneautsville were on the scene between 10 and 15 minutes following the call, but by then there was no hope of saving either the station or its contents. Fire had communicated to the bungalow, which was destroyed. Firemen however, managed to remove most of the furniture before it burned.

The Breese Tire Co., on the other side of the burning hall, was ignited and heavily damaged. Here, also, firemen were able to remove vehicles and some equipment. Burning brands, carried by the wind, threatened a wide area. At one time six house roofs were ignited.

In addition to Girard and Conneautville, aid came from North Girard, Springboro, Conneaut, Ohio; Lakeville, Ohio; Platea, Vernon Twp. and Conneaut Lake.

The combined effort of these mobilized units, with 250 volunteer firemen, had the flames under control by midnight. A number of fire officers who had been attending a firemen's meeting at Conneaut Lake Park responded *post haste* when they heard of the fire. Among them were Assistant Fire Chief Fred Carman, Meadville; Chief Philip McDonald, Sharpsville; Chief Roy Callahan, Greenville; Chief McAdoo and Police Chief Dudley Fisher of Conneaut Lake Park.

Following the fire, the City of Erie, Pa., agreed to loan Albion sufficient fire apparatus and equipment to provide temporary protection until the trucks, hose and other material lost in the fire could be replaced. Albion officials accepted the loan of a pumper, radio equipment and other items.

The total loss in the fire was estimated by Albion Fire Chief Ben Ferguson at $100,000.

Binghamton Firemen Praised for Controlling Hotel Fire

Binghamton, N. Y., fire fighters, under Fire Chief William D. Thomas, were credited with averting a potential conflagration by controlling a serious fire in the 70-year-old Moon Block, housing 32 families and several stores. Sixty persons were made homeless by the blaze, for which 3-alarms were sounded, bringing into action all of Binghamton's fire forces, including 10 engine, three ladder, one squad and three aerial ladder companies. All of the 67 firemen on the day shift were in action, aided by most of the off-shift. The Johnson City Fire Department dispatched a pumper and crew to locate in the Binghamton West Side Station, while the Endicott Fire Department was alerted, as was a pumper crew at State Hospital.

The old Moon building, 4-stories in height, at the corner of Chenango and Lewis Streets, had previously known four fires, three of which were set by a firebug who was sentenced to 50 years in prison but later released on a technicality.

The fire, which broke out shortly before 3:30 P.M. on Dec. 6, 1949, was first believed to have started from an unknown cause, on the back porch of a 4th floor apartment. Later reports placed the location as the 3rd floor rear porch and blamed children who ignited papers in a garbage can. At any rate, when the department received the first alarm, at 3:29 A.M., the fire had worked into the building and heavy smoke was driving out many of the occupants.

A strong wind blowing at the time fanned the flames and the fire spread rapidly from the rear to the front on the Chenango Street side and then to the Lewis Street side.

A bartender in the Arlington Hotel across the street discovered the fire and turned in an alarm from a box at Chenango and Lewis. A railroad worker also pulled another nearby box at almost the same time.

The first alarm, at 3:29 A.M., was followed by a second at 3:33, and a third at 3:44. First arriving firemen braved the smoke to search all apartments and aid tenants, who were found in the structure, to reach the street. Among these were three handicapped persons, one an elderly blind man. All reached safety without injury except for some smoke inhalation.

As the fire worked through the building, an explosion occurred in the Johnson Drug Store on the ground floor, quickly involving this area in fire. Its contents were destroyed. Heavy damage also was done to the DeLuxe Shoe Shine Parlor, Lake's Delicatessen, Fern Barber Shop and Wright's Bar and Grill. Smoke damaged the Dog House Restaurant, G. T., Elgin Rug Co. and Douglass & Bradley, cleaners, located on the ground floor of the building and adjoining it on Lewis and Chenango Streets.

As fire involved the old fashioned cupola atop the structure, firemen fought it from aerial ladders, which were also used to attack the blaze on the upper floors. When a portion of the cupola fell to the street, sparks carried across the way to the Arlington Hotel where its own fire fighting crew extinguished them.

The fire was brought under control in one hour and 15 minutes, but firemen continued to operate streams into the building through most of the night

Fire Chief Thomas and Fire Marshal Gerald E. O'Loughlin described the fire as the worst since 1943. Estimated loss on buildings and contents was $135,000.

Injured in fighting the blaze were Battalion Chief John Burns, lacerated hand; Lt. Don Wallace, injured nose; John Fox, foot lacerations; Fred Freiberg, punctured foot; Bill Mee, injured eyelid and John Farina, knee injury.

Moon Block Fire, Binghamton, N. Y., at Its Height

Fargo Finds Bed Smoking Can Be Curbed

Just how well do ordinances designed to curb careless smoking in bed operate? A letter to FIRE ENGINEERING from Fred J. Wells, Fire Chief of Fargo, N. Dak., gives an insight into what is being accomplished in that city.

After the Winecoff Hotel fire, Fargo adopted an ordinance (No. 771) making it an offense to use cigars, cigarettes pipes and tobacco in such a manner as to endanger life or property in hotels, rooming houses, lodging houses, apartment buildings and other places of public abode.

Since its enactment in January, 1948, 62 persons have been arrested. The majority of fires ocurred in the cheaper hotels and lodging places, although the leading hotels were not absolved.

Fire Chief R. Daniels of the Hardwick, Vermont, Fire Department, Watches His New Pumper Empty a Creek as It Fights a Forest Fire. The Truck, About to Be Tested by the Underwriters When the Fire Broke Out, Was Driven to the Blaze. When It Had Put Out the Fire It Returned to Hardwick and Took the Test

Of the 62 arrested, 58 were convicted, the fines ranging from $10 to $25 and/or a jail sentence. The maximum penalty is a $100 fine and 90 days in jail.

All this is good, but Fargo has gone further. A companion ordinance, No. 774, requires that all fires occurring in places of public abode be reported immediately to the fire department. Since enactment in February, 1948, five arrests have been made.

Prior to these ordinances, the fire department often had no knowledge of mattress fires until notified by a fire insurance adjuster. The fire department found this fact extremely dangerous. Now it believes it knows what's going on, even if its services are not demanded to fight the fire.

Chief Wells believes the adoption of these ordinances has cut the number of mattress fires, and has served to inform his department just how many such fires occurr in his bailiwick.

Pumper Gets Unexpected Test

A new 500 gallon per minute pumper delivered to Hardwick, Vermont, last Summer, had its baptism in flame before it had a chance to take the Underwriters acceptance test.

Here is how it happened: The Underwriters test was scheduled for early Monday afternoon. Fire Chief R. Daniels, Len Ford and Ted Stubenvoll, representatives of manufacturers, and Mr. Wright of the Vermont State Rating Bureau, were discussing the test when a forest fire broke out a few miles out of town. The fire engine was gassed, ready for the test and the volunteer crew was assembled, so everybody jumped in the truck and roared out to the fire.

The only source of water was a small creek which crossed the road, so while the firemen were laying out the 900 ft. of 2½" hose in two lines with two 1½" lines branching from each main line. other members of the crew dammed up the creek to get a water supply.

In a few minutes of pumping the worst of the fire, which covered about an acre, was under control and the creek was pumped dry.

The crew then headed up stream and cleared out brush and stones to increase the flow of the creek and soon the pumper was operating again. They pumped for an hour and three-quarters before the last of the fire was out. In some places wood was burning underground and when water was forced into the fire under pressure, the wood exploded with the force of the stream. Hundreds of acres of timberland were threatened by the flames.

When the fire was over truck and crew returned to the station for more gas and then set up for the Underwriters test. The pumper, a Four Wheel Drive Auto Company product, pumped for two hours at 150 lbs. pressure and then a half hour each at 200 lbs. and 250 lbs., a Class A test. It pumped from an 8 ft. lift and passed the test easily.

Plant Burns Before New Sprinklers Are Connected

A general-alarm fire gutted half of the Flock Process Corporation building 365 Main Street, Norwalk, Conn., on January 13, causing estimated damage of $200,000 to the plant, equipment and material. The Company makes a kind of artificial suede for finishing various cloths.

According to Fire Chief Charles A. Volk, of the Norwalk Fire Department, the fire started in a rear storeroom shortly before 6:25 P.M., and raced through the northern part of the structure.

While firemen from the three Norwalk fire stations, aided by volunteers, battled the flames, a 50-foot section of the rear wall collapsed and fell into the Norwalk River. At the height of the blaze, the roof of the northern half of the building caved in. Firefighters saved the southern part of the structure, which fronts about 200 feet on Main Street, having one-story facing the roadway and four in the rear as the ground slopes down to the river.

Due to weak pressure in the hydrants on the Company's property, and because the interior sprinkler system failed to function, efforts to halt the flames proved fruitless. Fire Commissioner Albert Heine said the sprinkler system was newly-installed but had no operating valves as yet.

The fire was discovered by a passerby who noticed a red glow in the factory windows. He sounded an alarm calling Norwalk firemen to the scene under command of Chief Volk. Several light explosions were heard during the fire, caused when the flames reached solvents used in the flock processing. Heat buckled steel girders in the building and damaged several machines.

The Flock Processing Corporation purchased the plant two years ago. In the original building, gun cotton was made for Union troops in the Civil War. That part was in the section destroyed by the fire. Lewis D. Jacobson, President and Secretary of the Company, said that the Company had just completed experimentation in new processing and was about to start full production operations. TOM MAGNER.

Memphis Department Wars on Careless Smoking

The Memphis Fire Department which has spark-plugged that city into winning probably more fire prevention awards than any other city in the nation, in 1949 accelerated its drive to again capture awards by further reducing it fire losses.

Pointing out that Memphis enjoys a Class II insurance rating, the highest that can be won, Fire Chief Connie O'Sullivan, in a full-page local news-

(*Continued on page* 231)

Ruins of Norwalk, Conn., Plant Following Fire

News of the Manufacturers

Motorola Announces New Pack Set

A new FM 2-way pack radio has been announced by Motorola Inc., for use by fire departments, law enforcement agencies, forestry services, and kindred operators of extremely mobile 2-way radio equipment. This unit incorporates a 16 tube receiver and an 8 tube transmitter into a compact 19 pound radio station, 10½" by 13" by 4-5/16", that can be hand carried, back carried, or used as a semi-fixed installation.

New Motorola Pack Set for Fire Service Use

This unit is designed for operation from pack set to pack set, with a nominal range of two to five miles; from pack set to mobile unit, with a range of from seven to ten miles, with greater ranges experienced when operating from aircraft or with fixed base stations.

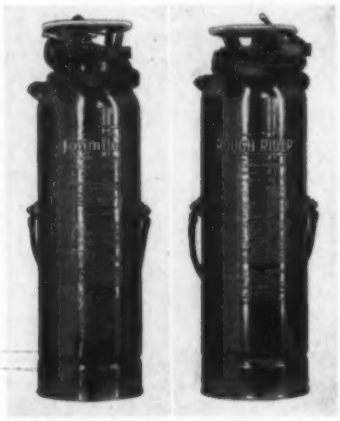
Equipped with a tip-up loudspeaker, and a patented adjustable squelch circuit, it will broadcast directly over the operator's shoulder when back carried, or to nearby working areas when the set is left stationary, yet it remains quiet during standby periods.

The Motorola Pack Set, designed for operation in either the 25-50 mc. band or the 152-174 mc. band, is available in three versions: single frequency transmitter and receiver; two-frequency transmitter, single receiver; and dual transmitter, single receiver. All are complete with batteries, antenna and microphone.

Alfco Adds Two New F.D. Extinguishers

American - LaFrance - Foamite Corp., Elmira, N. Y., has announced two new silicon bronze fire extinguishers with monotype construction shells, designed and built for fire department service.

The latest additions, known as Foamite Model 5F-FD-1 and Rough Rider Model 5S-FD-1, are both 2½ gal. capacity. With ultimate shell strength of 1400 pounds per square inch, these units are 65% stronger than strongest previous drawn-shell types; twice as strong as welded silicon bronze units and 2½ times as strong as fabricated copper models.

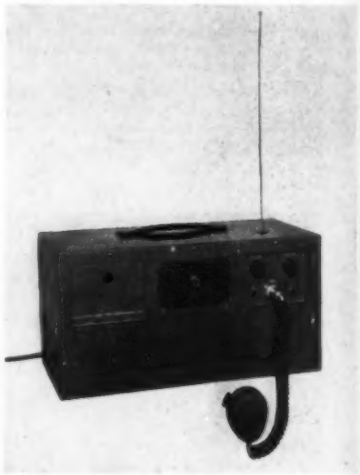


Left: Foamite Model 5F-FD-1. Right: Rough Rider Model 5S-FD-1

Additional advantages claimed by Alfco for these extinguishers include: 2 pounds lighter weight than drawn-shell models they replace; smart, modern appearance due to smooth monotype construction and golden hue of polished silicon bronze; resistance welding of welded hanger loop; new, wider, bottom collar and bottom to shell; projection handle; transparent, plastic nozzle for clear view of passageway and greater resistance to injury. A special feature is the Alfco Shut-Off Nozzle for discharge pressure control. An innovation incorporated for the first time in a drawn-shell extinguisher is the means of holding the unit in place while removing its cap. Hole in extinguisher skirt admit an iron bar which holds the shell firmly, preventing damage to the extinguisher.

New RCA Carfone Station Unit for 152-174 MC Bands

RCA Engineering Products Department, RCA Victor, has announced a new Carfone Station Unit 15 to meet all needs of either a fixed or portable station for mobile communications in the 152-174 MC megacycle bands. The new compact 44-pound station unit, a companion to RCA's Carfone mobile units, is designed to meet the needs of fire departments in small or medium sized municipalities, and other fields.



New RCA Carfone Station Unit

This new portable adjacent-channel transceiver, designated by RCA as the Carfone Station Unit 15, will meet all needs of either a fixed or portable station for mobile communication systems in the 152-175 megacycle bands. The 44-pound station unit is a companion equipment to RCA's Carfone mobile units, announced last year.

The unit offers improved selectivity and full signal modulation control on the transmitter side. It is housed in a single all-metal cabinet, 20" x 11" x 9", with all controls on the front panel. Panel and antenna connection are recessed in the housing for protection. The Carfone 15 requires no installation expense. The new FM transmitter has a power output of 15 watts and operates on 115 volts, 60 cycles, a-c.

(*Continued on page* 214)

Mine Safety Opens New, Larger Eastern Warehouse

Mine Safety Appliances Company, Pittsburgh, Pa., has opened a new and larger warehouse to serve eastern New York State and all of Connecticut, it is announced. The two-story structure, containing approximately 6,000 square feet of floor space, is located at 5-45 Forty-ninth Avenue, Long Island City, N. Y. It will house the New York City headquarters of Mine Safety Appliances Company with H. J. Seagrave, Manager of the District, in charge. The Albany, N. Y., territory will also be served by this new warehouse, which will carry large stocks of MSA safety equipment.

1875 · 1950
DIAMOND ANNIVERSARY

TO THE ATTACK!

In the old days, a twenty-inch brass trumpet was a chief's most treasured insignia. Eureka used to fill expensive orders for trumpets—some were even silver-plated on white metal.

But fire chiefs, then as now, fussed more about fire hose than brass trumpets. Fire hose was then, as now, the only satisfactory means of conveying water from source of supply to the conflagration. And Eureka, now as then, built hose to the highest quality specifications.

During 75 years of making fire hose, Eureka has always believed that the best way to make better fire fighters is to give them the very best hose.

"FOR GREATER PROTECTION TO LIFE AND PROPERTY"

EUREKA FIRE HOSE

For 75 Years, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

195 Hudson Street · New York 13, N. Y.

Division of United States Rubber Company

Please mention FIRE ENGINEERING *when writing advertisers*

Smoke Damage

(*Continued from page* 192)

check on the place. If conditions are such that we feel there is no further need for the bottles, we will pick them up and return them to the tackle box. If conditions are not just right, we might leave the bottles for another twenty-four hours, or do a complete respraying. We also have a small metal box with a little electric fan in it with two holders directly back of fan for holding two bottles with wicks. Sometimes we will leave this unit at the location of the fire to overcome the last remaining odor that might or might not be killed by our regular sprayings.

Well, now, what does all this cost? In the last year we have spent less than $75.00 for all our equipment and solution. The hand spraying unit costs $2.75, the electric fan unit $12.00 and the bottles were given to us by the jobber selling the solution to us. Three hand sprayers will cover a lot of area in twenty minutes time. They are very handy because the solution can be put just where it is needed. We are thinking at this time of purchasing a small paint spraying machine for use in connection with our spraying operations.

As to the deodorant itself, we have used "Air-Wick", "Air-Kem" and another one. We prefer Air-Kem for two reasons. It seems to work better and so far it has been the cheapest. There are several other chemicals and materials that can be used for the removal of smoke odors, such as ammonia, formaldehyde, ozone, vanilla extract and even burnt sugar.

Ammonia and formaldehyde will do nice work if used properly and under conditions favorable to their use. They are a little hard to handle and can not be used on all inside fires. As to ozone, it will remove a lot of odor and will clear up some very mean conditions. We are working at the present time on a method of using ozone, in conjunction with another chemical, to deal with conditions where burnt petroleum odors are present.

Chief W. E. Twitty, Lubbock, Texas, has done some mighty fine work with ammonia and formaldehyde.*

In conclusion, any city that really wishes to reduce their overall yearly fire loss could do nothing better towards that end than to investigate their own individual fires falling into the first two classifications of fires set forth in the beginning of this article and see for themselves just how much smoke damage is adding to their yearly loss record. Smoke damage losses can be reduced, and at minor cost and with little effort. There is no question but what greater accomplishments than those spoken of in this article will be made.

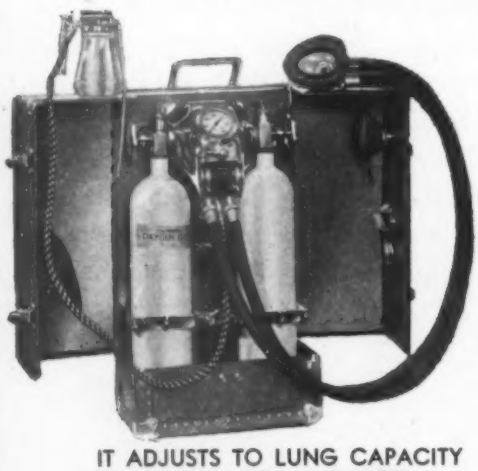
Remember, even though you do not completely remove all the odors, your citizens will certainly appreciate your efforts for trying. At least they have in Fargo, and we do not believe Fargo is any different than hundreds of other cities.

*Referred to in FIRE ENGINEERING, Dec., 1949, page 859.

WHEN LIFE IS IN THE BALANCE —
MAKE SURE
YOUR RESUSCITATOR IS 4-IN-1

STEPHENSON RESUSCITATOR
GOODNER MODEL

RESUSCITATOR-INHALATOR-ASPIRATOR-ASSISTOR



WRITE TODAY FOR LITERATURE OR DEMONSTRATION

IT ADJUSTS TO LUNG CAPACITY
IT BREATHES FOR THE VICTIM
IT MIXES AIR WITH OXYGEN AS VICTIM RALLIES
IT IS ECONOMICAL TO OPERATE

STEPHENSON CORPORATION
RED BANK NEW JERSEY

Dayton Fire

(*Continued from page* 194)

makes it extremely difficult to enter the basement during a fire."

The Report prophesied other similar fires in the future and, in urging sprinkler protection, it said: "If the basement of the Virginia Cafeteria had been protected by an automatic sprinkler system properly installed and in service, if not extinguishing this fire it would have controlled it and restricted it to a small area, permitting the firemen to enter the basement and finish the job with a minimum of loss."

Fire fighting difficulties were covered in this statement: "In the case of the . . . Cafeteria, the remodelling of this structure took place more than ten years ago. At that time, the combustible floor should have been removed and an incombustible floor substituted for it. If this had been done, it would have materially reduced the seriousness of the fire and probably would have made it possible for the firemen to enter the basement and extinguish the fire in the early stages. Large basement areas subdivided by incombustible walls such as this one was, without adequate means of ingress or ventilating, present a difficult problem in fire fighting. It seems that it should be required to plan proper and adequate access to basement areas in eah of the principal subdivisions where these structural conditions exist."

The Report concludes: "Once again a serious fire has resulted from the use of combustible materials in constructing employees' lockers and locker rooms. It is entirely possible in this case that if the lockers had been of approved metal construction, the fire would have been confined to the locker and readily ex-

tinguished. Once again, . . . fire . . . emphasizes the importance of thorough training of all employees in the use of first aid fire extinguishing equipment. This fire could have been extinguished by either one of the two women who were in the locker room at the time the fire was discovered. If they had remembered and used the 2½-gallon soda-acid extinguisher that hung just outside of the locker room door, the fire could have been extinguished when first observed. The extinguisher was not used at the time of the fire and was found by firemen in its original position after the fire was finally extinguished.

Box 21 Club and Disaster Services Active

As the seriousness of the fire developed the city's top civic and other officials were on hand. Chief Joseph Kirby and Assistant Chief Forrest Lucas directed the fire battle. Police Chief Matthew Kirkpatrick and aides set up police blocks to divert traffic and handle the crowds of curious.

Following the second alarm, shot in ten minutes after the first, the Red Cross, Salvation Army and other local disaster services went into action. Foremost in the van of helpers were members of the Box 21 Association—the fire buffs of Dayton, who helped move injured to hospitals, provide refreshment through its mobile kitchen and assist in other ways.

Christmas Tree

(*Continued from page* 195)

street. Gas and electric service was shut off to most of the homes. Special deputies were created by Bedford County Sheriff Jacob Dunkle to aid in preventing looting. Pennsylvania State Police were also on guard.

Most of the structures destroyed were old, of frame construction and located close together, which furnished ready fuel for the fire. The heat was so intense, reports indicate, that some places a block or more from the main fire were ignited by radiated heat.

The fire was brought under control about 9:00 P.M. Christmas night. Firemen continued to wet down the ruins for many hours later before the last spark was out.

It was the second serious fire in the community within a few days.

The Thursday before Christmas, fire destroyed the Pennsylvania Lumber & Post Company with reported loss of $100,000.

Paterson Firemen Aid "Eyes for the Needy"

Members of the Paterson, N. J., Fire Department, G. Hobart Strathearn, Acting Chief, and the Firemen's Mutual Benevolent Association of Paterson, are supporting a worthy North Jersey organization known as "New Eyes for the Needy, Inc." the object of which is to collect discarded eye glasses for possible use by needy persons.

Capt. Thomas Schofield, Engine 12, Paterson Fire Department, is Chairman of the Department's Committee in charge of the activity. He will welcome any glasses,—old style, new style, pince-nez, lorgnette, etc. Station 12 is located at Circle Ave. and North 3rd St., Paterson, N. J.

NOW

...a smaller, lighter

LEECE-NEVILLE

AC-DC Generating System

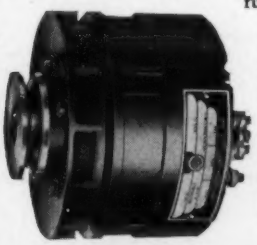
with

50 AMPERE OUTPUT

at a record low price!

Now a *higher-output* Leece-Neville AC-DC Generating System is available to you at the *lowest cost ever!* This new, smaller, lighter system for 7-volt service—rated at 50 amperes and capable of 25 to 35 ampere output with engine idling—offers you performance unmatched by any heavy duty D-c. generator of comparable size. Yet it actually costs less than the cheapest of these!

On passenger cars, and light trucks used in fire department service where original equipment generators do not meet current requirements raised by the use of radio or other accessories—this newest Leece-Neville System is the practical, low-cost solution to every generating problem. See your nearest Leece-Neville Service Station or send convenient coupon below for further details!



ALTERNATOR of Leece-Neville 7-Volt, 50-Ampere AC-DC System weighs only 21 pounds. Other 7-Volt Systems for every requirement up to 80 amperes. 14-Volt Systems rated at 60, 80, 100 and 150 amperes.

LEECE-NEVILLE

Pioneer and STILL Quality Leader

CRANKING MOTORS • GENERATORS
VOLTAGE REGULATORS • SWITCHES

THE LEECE-NEVILLE COMPANY, Department L, Cleveland 14, Ohio

Please send descriptive literature on your *Higher-Output* AC-DC Generating Systems.

NAME_____

ADDRESS_____

CITY_____ STATE_____

FALSE ALARMS

"Do You Have to Burn Every Dinner, Dear, Just Because I'm a Smoke-Eater."

Clean

Said the tooth brush to the tooth paste
In tones of wild delight,
"I'm going to give you a great big squeeze
When we meet on the bridge tonight."

Delay

The new doctor was the only one available in town when Mr. Kelley's wife was taken ill. Called to the Kelly home, he went upstairs to the sick room but came down in a few minutes to inquire of Kelly. "Have you a cork-screw handy?" Given the tool, he disappeared up the stairs for the second time.

Several minutes later the doctor was back. "Got a screw driver?" he asked the anxious Kelly. Instrument in hand, he went upstairs again.

Almost immediately he was downstairs again. "A chisel and mallet, quickly," he demanded. The distraught husband could stand it no longer. "For the love of Heaven, doctor," he begged, "what's the matter with my wife?"

"Don't know yet," was the reply. "Can't get my medicine bag open.

Jim Dandy, says he and his little woman certainly have done a lot of worrying because they haven't had any children.

"It's really serious," says Jim. "We've spent many a sleepless night over it."

Light Loser

There were two men who consistently had tough luck when gambling, and at the end of the week they had only $2.00 between them. One man suggested their luck might be better if he gambled alone, which he did.

At the race track he won on a 40-1 shot in the first race and by the end of the afternoon he had $30,000. He put all of it on red at a roulette wheel and when the ball settled in black he had lost everything.

"How did you make out?" his friend asked when he returned.

"Lost the two dollars," was the reply.

Sign in front of a marrying parson's office: "You Get the Bride, We'll Do the Rest." Wondering Bridegroom—"Indeed! That's hardly fair."

A fellow on the loose most generally gets tight.

The confident young man stopped in the apartment house hallway to call through the telephone. "Hello, baby," he said. "This is Gideon."

"There is so much noise on the line, I can scarcely hear you," come the voice of a gal on the other end of the line, "Who did you say it was?"

"Gideon, honey, G for gin, I for ice, D for drinking, E for excitement, O for onery-eyed and N for necking. Got that, honey?"

"Well," answered the gal "not all of it—but come on up anyhow."

"Joe Must Have Gotten Too Much Smoke. He Can't Be That Modest!"

UTILITY AND ECONOMY . . . *Plus* FASTER FIRE-STOPPING POWER . . .

PIONEERS OF DRY CHEMICAL
ANSUL
FIRE EXTINGUISHING EQUIPMENT

DRY CHEMICAL

FIRE EXTINGUISHERS ARE YOUR *BEST* PROTECTION

ANSUL MODEL 150-S
Listed by Underwriters' Laboratories.

ANSUL-equipped "Jeep" Fire Trucks are *fast, effective* and *economical.* In a fire emergency *they get there* with their load of ANSUL Faster Fire-Stopping Power . . . *ready for instant action.*

ANSUL Fire Extinguishing Equipment is your *BEST* protection . . . *and most economical, too!* Tests conducted by impartial, nationally recognized approval laboratories have proved the superiority of Ansul Dry Chemical Fire Extinguishers on *Flammable Liquid Fires.*

In addition, Ansul Fire Extinguishers provide greater safety for the operator. The stream of Ansul Dry Chemical provides a protective screen safeguarding him against radiant heat.

More and more airports, transportation and oil companies, industrial plants, etc., are equipping with Ansul Extinguishers as their first line of fire defense. There is a reason . . .

Get the facts. Send for your copy of file No. 526. You'll also receive our latest literature together with comparative rating charts for various types of fire extinguishers.

ANSUL CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION, MARINETTE, WISCONSIN
DISTRIBUTORS IN PRINCIPAL CITIES IN THE UNITED STATES, CANADA, AND OTHER COUNTRIES

World Wide Fire News

By Roi B. Woolley

Firemen Dispel Dangerous Gasoline "Fog"

Effective work of Portland, Ore., firemen successfully countered a serious hazard recently which resulted when escaping gasoline from a loading platform at a gasoline plant on NW St. Helen's road, that city, laid an explosive pall of white "smoke" over the plant area and part of nearby Guilds Lake housing project.

Night air, which kept the gasoline vapors close to the ground, caused the white cloud to spread for over 100 feet in all directions from the source of the trouble, a leaking valve which, evidently had been left open on a loading platform, permitting the fuel to collect in a large pool on the ground. Plant officials estimate that 20 barrels, or 800 gallons of the fuel, was spilled in the 20 minutes before the leak was discovered.

Portland firemen, using fog nozzles, sprayed the area to dissipate and disperse the dangerous vapors, while others stretched lines to cover threatened exposures. Meanwhile police cars equipped with loud speakers toured the nearby district warning residents to light no fires and to keep automobiles out of the area.

Odor of the gasoline carried on the wind to the far end of Guilds Lake. Some of the vapors leaked through a drain sewer outside the plant, creating another hazard, but firemen directed streams of water through the sewer to create a current and draft which carried fumes to the river, away from the danger zone.

* * *

Their Luck Held Out

Salt Lake City firemen won't soon forget a certain Sunday evening. They were called to an emergency in a loaded trailer-truck, parked in the rear of the Pacific Intermountain Express Co. on West Fourth St., S.

On the scene, the problem was to unpack and remove a gallon bottle of smoking acid from the loaded truck, which contained a shipment from the Hill Air Force Base, Ogden, Utah.

The removal of the acid posed no particular problem for the fire fighters, who donned gas masks and got it safely away without injury to themselves or truck. No—it wasn't the smoking acid that gave 'em goose pimples—it was the scorched box they later found in the express truck adjacent to the acid. That, according to Assistant Chief A. Ray Ward, was filled with incendiary bombs.

* * *

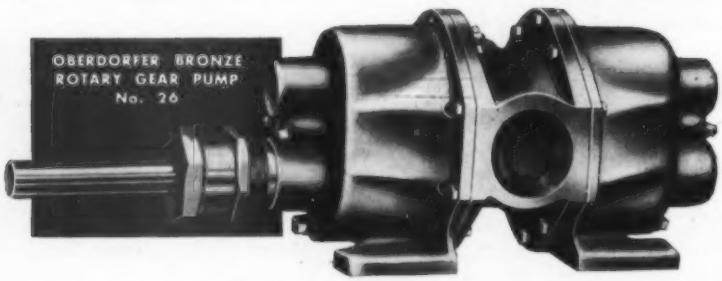
Hot Off the News Ticker

In Oak River, Man., the Board of Trade formally petitioned the Canadian government for a new post office. Hours later the old post office burned down. Residents say that clinched it—for a new one. . . . A Tokyo paper told of a family of five that went mad from fumes of a paint-diluting oil they had been inhaling for about five months. Head of the family, a painter, had about 40-gals of the stuff stored in the house. Members first reported severe stomach pains, from which they recovered. But headaches persisted and the whole family fell into fits of temporary insanity. Medical men suspected the oil contained ethyl cyanide, which can paralyze the body and sometimes will affect the mind. . . . Fire, in Rio de Janeiro, which followed explosion of two gasoline tanks, destroyed more than 100 huts, three commercial houses and one school in the Tombadeiro area of the city. More than 400 families were left homeless. . . . A crude bomb, packed with TNT, exploded in a Rice Institute dormitory, Houston, Tex., smashing windows and showering sleeping students with glass. There was no fire, and no injuries. Police said the bomb, attributed to a "student prank", was powerful enough to have killed every man in the wing of the men's East Hall, had it been placed strategically. . . . An estimated 1500 persons were made homeless by the fire that destroyed 300 homes in the Punta Borinquen section of the Town of Arecibo, about 50 miles west of San Juan, Puerto Rico. Firemen controlled the blaze in a little over two hours. . . . Nine N. J. youths stole enough dynamite from a Coast Guard ammunition dump to blow up the city of Wildwood, that state, Local, State and FBI agents nabbed 'em in time! . . . Countess Poera Caviglia Franzini died in a hospital at Ginale, Italy, as a result of burns suffered when an electric blanket caught fire while she was asleep. The accident occurred at the Villa Vittorio Veneto on the Italian Riviera. . . . A Belgrade paper reported that a special Albanian court had sentenced five persons to death and two others to long prison terms in connection with a fire that destroyed one of the country's biggest saw-mills. . . . In Toronto, Ont., Allan Cairns probably saved his life by his prompt action when his hair caught fire while he was pouring gasoline into

YOU CAN TERMINATE OVER 50% OF ALL FIRE CALLS USING ONLY

OBERDORFER

Booster Pumps



The records of many departments show over half of all calls satisfactorily terminated by Oberdorfer Bronze Rotary Gear Booster Pumps alone, with little or no fire or water loss. These pumps held many more of those calls in control the few minutes until heavy pumpers went into action. They provide water and pressure just as fast as a fireman can get to a fire.

For all their usefulness, Oberdorfer Booster Pumps are surprisingly inexpensive, from $55.00 for a 50 G.P.M. size to $172.50 for the 150 G.P.M. size illustrated.* We have been making bronze gear pumps since 1896, and their quality is attested by the hundreds of departments that have used them for years.

*Slightly higher west of the Rockies.

PERFORMANCE DATA — No. 26 PUMP SHOWN ABOVE

Pump Shaft RPM	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'-1½"	15'	150

For complete specifications of this and other Oberdorfer Booster Pumps, and name of your distributor, write:

FIRE PUMP DIV., OBERDORFER FOUNDRIES, INC., Syracuse, N. Y.

his car. He dived headfirst into a snowbank. . . . Said to be a total loss, the 4,850-gross-ton Norwegian motorship Heimvard was beached near New Orleans after an all-night fire and series of explosions apparently gutted her. The crew of 20 men and one woman abandoned ship. . . . A Panama Canal fireboat controlled a fire which threatened the 8,000-ton freighter Pioneer Wave. . . . One car loaded with explosives blew up and several others burned near Manhattan, Mont., Feb. 14 last, after 34 cars of a Northern Pacific freight train were derailed. Cause—broken wheel. . . . It is reported that about 3,700 persons lost their lives in the November uranium mine disaster in Saxony, Soviet Zone Germany.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of February, 1950.

Month Ending February 28, 1950

Fresno, Cal.—Bldg. housing the main storage vats, gauger's office, supt.'s office, fortifying room, laboratory and shop of the Sunnyside Winery, along with the wines in the vats, destroyed.

Downey, Cal.—Wallace Mill & Lumber Co. drying kiln, together with lumber contents, burned. Fire originated in the electrical system of forced air furnace.

East Chicago, Ind.—Cities Service oil refinery damaged.

Albany, N Y.—Grand Cash Market damaged.

Runnemede, N. J.—Runnemede Theatre, Black Horse Pike, destroyed.

Wynantskill, N. Y.—Grade School damaged.

Syracuse, N. Y.—Vending Machine whse., the American Canteen Co., destroyed.

Toppenish, Wash.—Methodist church, destroyed. Overheated furnace.

Chehalis, Wash.—Sears, Roebuck Co. store damaged.

White Lake, Wis.—Yawkey-Bissel Lumber Co., damaged.

Toronto, Ont.—Swift Canadian, Ltd., box factory, damaged.

Oakland, Cal.—Eagle Hotel, the West Coast Pants Factory and several shops in business block, damaged.

Gridley, Cal.—Business bldg., occupied by Keene's Home Furnishers, radio shop, and Pierce Upholstering Co., destroyed.

East St. Louis, Ill.—Nine-family apt. house, four stores, damaged.

East St. Louis, Ill.—Business bldg. occupied by Peter L. Grain's Drug store, G. F. Jackson Co., furniture store, damaged.

Baltimore, Md.—Manufacturers Clothing Outlet destroyed.

Boston, Mass.—Lucky Strike Bowling Alleys, damaged.

Decatur, Mich.—Large barn and adj. gladioli bulb storage bldg. on farm of Peter Van Garsel, destroyed.

Eureka, Mont.—Montana Hotel, post office, destroyed.

Portland, N. D.—Farmers Union elevator destroyed.

Oil City, Pa.—Lewis Bros. grocery whse., restaurant bldg. and apts., destroyed. Short circuit.

Tacoma, Wash.—First Lister Grade School, destroyed. Oil burning salamander.

Butte, Mont.—American Theatre destroyed.

Montreal, Que.—Business bldg. occupied by H. E. Herbert outboard motor dealer, C. H. Smith sundry machine dealer and L. A. Saucier watchmaker, destroyed.

Kingston, N. Y.—Garage paint and repair shop destroyed. Stove explosion.

Lancaster, Ohio—Sherwin-Williams Paint Store, damaged.

Danville, Va.—Office and dressing rooms, Luna Lake Recreation Center, destroyed.

Kleinburg, Ont.—Twelve-room lodge at Circle M Ranch, destroyed.

Springfield, Ill.—John J. Jobe Fur & Millinery firm, S. A. Barker Co., Stern Furniture Store, Colonial restaurant, damaged.

Klamath Falls, Ore.—Oregon rooms apts, destroyed; Arbuckle shoe store damaged; Klamath Falls jewelry, damaged; Eagle Tavern, damaged.

UNOX
TRADE-MARK
PENETRANT

B makes "WETTER WATER" for Fire-Fighting

Wherever water can be used, UNOX Penetrant "wetter water" will put out fire at least 2 to 3 times faster than plain water.

The speed and effectiveness of this "wetter" and BETTER water show up dramatically in quick knockout of fires that are too stubborn for plain water. These include flammable-liquid spill fires and fires in baled cotton and upholstered furniture.

But experience has proved that UNOX Penetrant is not just a specialty item. When properly mixed with water, it does a much faster extinguishing job wherever or however it is used against fire.

So order UNOX Penetrant today! Increase your efficiency—start "wetter water" fire-fighting now.

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30 East 42nd Street UCC New York 17, N. Y.
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Confidence

4 CYCLE
BRIGGS & STRATTON
GASOLINE ENGINES

You buy with confidence because you know machines, tools, appliances and equipment are "Powered Right" when they are powered by Briggs & Stratton.

The Briggs & Stratton trademark is your assurance of maximum efficiency, dependable service, and long life. Insist on Briggs & Stratton 4-cycle, single-cylinder air-cooled engines to power your equipment.

BRIGGS & STRATTON CORPORATION
Milwaukee 1, Wisconsin, U.S.A.

Centralia, Wash.—Kullen Shoe Factory damaged. Defective coal stoker.
Vancouver, B. C.—Crescent Beach Hotel damaged. Deep Cover Hotel, also damaged.
Toronto, Ont.—Supply bldg. and box factory of Swift Canadian Ltd. plt. destroyed.
Washington, D. C.—Aristo Cleaning Co. damaged.
St. Louis, Mo.—Business bldg. occupied by Peter L. Gain's drug store, G. F. Jackson Furniture Co. and apts. damaged.
Brooklyn, N. Y.—R. and D. Trucking Co. whse. destroyed.
Dickinson, N. D.—St. Charles Hotel, Saiff furniture store, destroyed.
Youngstown, Ohio—J. D. Fowler Construction Co. whse., construction equip., destroyed.
Armstrong, B. C.—Co-operative store and adj. store destroyed. Gasoline explosion.
Owen Sound, Ont.—Kemble United Church destroyed.
New Haven, Conn.—American Steel & Wire Co. plt. destroyed.
Atchison, Kans.—State Orphans' Home, damaged.
Plattsburgh, N. Y.—Nine-store apt. bldgs. destroyed.
Mount Airy, N. C.—Surry Hudson Sales Co., Pat's Service Station, damaged.
Denver, Colo.—Seven apts. and seven business establishments damaged.
Lockport, Ill.—Offices, showroom and hardware dept. of Drake Lumber & Hardware Co. store bldg., damaged.
Medford, Mass.—Apts. and branch library, damaged.
Minneapolis, Minn.—Wilharm pharmacy, Our Own Hardware and apts, damaged.
Mound City, Mo.—Half block of stores, offices and apts. on Maine St., destroyed.
Troy, N. Y.—Crystal Lounge Club damaged.
Southern Pines, N. C.—Church school annex of the Church of Wide Fellowship, damaged. Defective electrical wiring.
Urbana, Ohio—Hermstead & Holding Co. appliance dealers, damaged.
Ridley Park, Pa.—Ridley Manor apts. damaged.
Haskell, Tex.—Main plt. of Haskell Co-operative Gin, destroyed.
Charlottetown, P. E. I.—The Sporting Club, damaged.
Bakersfield, Cal.—Andrew Bros. Sunkist Citrus Packing House destroyed.
Kansas City, Kans.—Bldg., occupied by M. & J. Cafe, and offices, damaged.
Binghamton, N. Y.—Merle Halstead's business and apt. block destroyed. Defective heating plt.
Mount Vernon, Ohio—Soy bean milk mfg. plt. damaged.
Puyallup, Wash.—Puyallup High School auditorium destroyed.
Rimouski, Que.—Aluminum built whse. of Quebec North Shore Paper Co. at Chute aux Outardes, damaged.
Chicago, Ill.—Factory bldg. of Radio Industries, Inc., damaged.
Gary, Ind.—Walker Motor Co. garage, U. S. 6, damaged.
Hillman, Mich.—Pomeroy tavern, two miles west, destroyed.
Hoosick Falls, N. Y.—The Crestwood restaurant, one mile north, damaged.
Philadelphia, Pa.—Ridley Manor apts., Ridley Park, damaged.
Orono, Canada—Orono United Church destroyed. Overheated furnace.
Fort Pierce, Fla.—Huge citrus plt. of White Packing Co. destroyed.
Danvers, Mass.—Fossa Block, business bldg. destroyed.
Woburn, Mass.—Florist shop and greenhouse of Robert and John Cummings, Route 3 and Bedford Road, destroyed.
Midland, Mich.—Dow Latex plt. damaged.
Warsaw, N. Y.—Eck Motor Salesroom and garage, destroyed.
Charlotte, N. C.—Five thousand gallons of propane gas at Rulane Gas Co., plt., destroyed.
Rutland, Vt.—Sheehan Motors, Inc. garage destroyed.
Tacoma, Wash.—Tacoma Transit Co. garage, four buses, autos, damaged.
Kingston, Ont.—Bldgs. of Frontenac Tileworks, destroyed.
Dothan, Ala.—Newville school bldg. destroyed.
New London, Conn.—Recreation bldg. at Navy Submarine Base, damaged.
Atlanta, Ga.—Mule trading barn of the National Stockyards Commission Co., destroyed. 215 mules died in the fire.
Woodstock, Ill.—Business bldg., occupied by a shoe store, damaged.
Hollandale, Minn.—Hollandale Marketing Assn.'s whse., damaged.
Enid, Okla.—The Newman Mercantile Co. store damaged.
Columbia, Tenn.—Radio Station WKRM, Mt. Pleasant Highway, destroyed.
Los Angeles, Cal.—Zuccas Opera House, also adj. Cotton Club, night spot, damaged.
Salinas, Calif.—Tavern Co. whse., stored sugar for Spreckels Sugar Co. and Union Sugar Co. damaged.
Hammond, Ind. — The one-story, eight-room wooden parish grade school destroyed.

Hartford, Ind.—Willman Lumber Co. woodworking machine shop, destroyed.
Covington, Ky.—Covington Paper & Woodenware Co., Kay's Laundry, destroyed. Barrels of linseed oil exploded.
Washington, Kans.—Three business bldgs., occupied by post office, Shaw insurance Co., damaged.
Big Rapids, Mich.—Two main bldgs., Ferris Institute, damaged.
Glens Falls, N. Y.—Towers Hotel destroyed.
Princeton, N. J.—Princeton University cyclotron, Palmer Laboratory, destroyed.
Steubenville, Ohio—United Presbyterian Church damaged.
Houston, Tex.—Magnus Metal Div. of National Lead Co. damaged.
Fairbanks, Alaska—Casa Blanca night club destroyed.
Taft, Cal.—Hippodrome Theatre bldg. destroyed.
Los Angeles, Cal.—Industrial Oil Products Corp., damaged. Kettle of fish oil boiled over.
Belvidere, Ill.—Foundry bldg. of National Sewing Machine Co. destroyed.
Wareham, Mass.—Fourth District Court, records and equip., destroyed.
Quincy, Mass.—First National Stores, Inc., Supermarket, damaged.
Riverdale, Mich.—Garage of Frank Hyde, three school buses and two dwellings, destroyed.
St. Paul, Minn.—Whse. occupied by Meadows Transfer Co., Merchants Cartage Co., Kesshin Motor Express Co., Little's Express and Chicago Express Co., destroyed.
Elizabeth, N. J.—Five dwellings on Fulton street, destroyed.
Jamesburg, N. J.—Krygier Seed Co. whse., Helmetta, destroyed.
Gastonia, N. C.—Johnston Furniture Co., damaged.
Cincinnati, Ohio—Emery Industries, grease cleaning bldg., damaged.
Enid, Okla.—Champlin Refining Co., oil refinery, damaged. Open valve of butane gas contacting hot light bulb.
Enid, Okla.—Los Pimientos Apt. House, destroyed.
Phoenixville, Pa.—Mansion of William J. Clothier on Diamond Rock Hill, near here, destroyed.
Philadelphia, Pa.—Vacant factory bldg., destroyed. Sparks.
Philadelphia, Pa.—Ellis Country School for Fatherless Girls, West Chester Pike, Newtown Square, destroyed.
Pittstown, Pa.—Bldg. of Pittston Stove Foundry, damaged.
Pasadena, Cal.—Joyce Shoes, Inc., plt., destroyed.
Yarmouth, Maine—Weber Grain and Feed Mill damaged.
Cockeysville, Md.—Maryland Fine Wire Co. plt., damaged.
Lakeview, Mich.—R. & C. C. Bollinger garage, destroyed.
Mount Gilead, Ohio—Gandee Baking Co. plt., damaged.
Norwalk, Ohio—G. S. Stewart & Co. furniture plt., damaged.
Willoughby, Ohio—F. W. Woolworth store and Marshall Drug Co. store in downtown area, destroyed. Explosion.
Portland, Ore.—Wally's Marine Service, Oswego Lake, destroyed.
Providence, R. I.—Peoples Furniture Car, damaged.
Bishopville, R. I.—Atlantic Coast Line Railways cotton platform, including from 200 to 300 bales of cotton and two box cars on the siding, destroyed.
Austin, Tex.—Big Bear Supermarket, damaged. Defective refrigeration.
Washington, D. C.—Ruby Foo's restaurant, damaged.
Vivian, La.—Crude oil storage tank, destroyed. Lightning.
Ocke's Mills, Maine—E. L. Tebbetts Spool Co. destroyed.
Lewistown, Pa.—Old North American Tannery Bldg. destroyed. Dillree Motors Agency, Penn Furniture Co. and Tittenhouse Body Works, damaged.
Petersburg, Va.—Terminal Building damaged.
Barker, N. Y.—Business bldg. occupied by grocery store, drygoods store, Kenneth Strong restaurant, damaged.
Lewistown, Pa.—Hatchery bldg. of B. C. Raffensburger Farm Hatchery, damaged.
Philadelphia, Pa.—B'nai Aaron Congregation destroyed.
Pittsburgh, Pa.—Central Christian Church and apt. house destroyed.
Sugar Land, Texas.—The Palms Theatre destroyed.
Wheeling, W. Va.—Business block, Phillips bldg. Arlington Hotel, sporting goods store, auto supply company and the Colonial Hotel, damaged.
Miami, Fla.—United Metalcraft Co. plt. damaged. Violent carbide explosion.
Geneva, Fla.—Century-old dwelling with valuable antiques owned by Mrs. F. G. Yerkes, destroyed.
Hoopeston, Ill.—Hoopeston Universalist Church destroyed.
Ann Arbor, Mich.—Dwelling owned by Mr. & Mrs. Bennett E. French, destroyed.

Firemen need SCOTT AIR-PAK to give them complete protection under hazardous conditions caused by smoke or toxic fumes. An entirely self-contained unit, Scott *Air-Pak* gives the wearer an ample supply of cool, confidence-inspiring *air* (not oxygen) to keep him safe and working with utmost efficiency. The result is an outstanding record of life and property conservation through regular use of Scott *Air-Paks* for all emergencies.

Get the full story of Scott Air-Pak — write for BULLETIN 510 *today!*

SAFETY EQUIPMENT DIVISION
SCOTT AVIATION CORP.
215 Erie Street, Lancaster, N. Y.
In Canada: Safety Supply Company, Toronto, Ont.

ESTABLISHED IN 1932 Scott FOR SAFETY—FOR SERVICE

Obituaries

Dr. Stillman, Friend of Firemen, Dies

A life-long lover of the fire service, and a world renowned fire buff, Dr. Ernest G. Stillman died at his home 45 East 75th Street, New York City on December 19, 1949.

Dr. Stillman was made an Honorary Deputy Chief of the New York Fire Department in recognition of his outstanding services to that organization. In his lifetime he financed a number of inventions designed to improve fire control. He also presented to the New York Fire Department the bronze memorial erected in honor of New York firemen who lost their lives in line of duty. Two of his other contributions were the electrical maps of Manhattan and Brooklyn, maintained at those Boroughs' fire alarm headquarters. These show locations of all fire stations and can be made to indicate companies in and out of service. Still another contribution was his endowment of medals of award for heroic firemen of the New York Fire Department.

At one time he served as Chief of the Cornwall, N. Y., Volunteer Fire Department.

Dr. Stillman, whose home was equipped with fire alarm communications instruments, attended all serious New York fires. His collection of motion pictures of fires and fire fighting is probably unsurpassed in this country. In addition to showing these himself, while he was active, he generously and widely loaned them on request.

A son, Timothy who survives the Doctor, carries on the family tradition of fondness for the fire service. "Tim" as he is known, has for many years contributed to FIRE ENGINEERING. He is a member of the Fire Bell Club of New York City, and like his father before him, of the International Association of Fire Chiefs.

Ex-Chief J. C. King Dead

John C. King, Chief of the Hartford, Conn., Fire Department from 1942 to 1946, died in St. Francis Hospital, Hartford, on January 27, following an illness which had its inception at the Niles Street Hospital fire on Christmas Eve, 1945. He was 64 years old.

Chief King headed the Hartford Fire Department during the hazardous wartime years and was active in the civilian defense program and in recruitment and training of auxiliary firemen at the fire stations.

He served the Department for thirty-six years from his appointment as a substitute in 1909, until his retirement on March 1, 1946. During his term as fire chief, the City of Hartford won the second of two grand awards it has received for fire prevention from the United States Chamber of Commerce. This was in 1943, when Hartford led all cities in the United States and Canada.

Hartford's most disasterous fire, and the worst holocaust in Connecticut's history, occurred during Chief King's time in office. This was the tragic Ringling Brothers, Barnum and Bailey circus fire on July 6, 1944, when 169 persons lost their lives. At the Niles Street Hospital fire, 17 aged persons died.

In 1923, when Chief King was a Captain, he was commended for courageous rescue work in a fire at the old Fuller Brush Company building. In 1911, Chief King was named a permanent fireman and promoted to a Lieutenant in 1916. Three years later, in 1919, he was advanced to Captain and in 1935 was made Acting Deputy Chief. In 1937 he was named Fifth Deputy Chief and Drill School Master and one year later, in 1938, was promoted to First Deputy Chief. In 1942 he was named Chief of Department, succeeding Chief Thomas J. Skelley.

Chief King was a member of the Firemen's Protective Association; New England Fire Chiefs' Association, Connecticut State Fire Chiefs' Club.

TOM MAGNER.

Ex-Chief J. Dunn Dead

Retired Fire Marshal Jeremiah Dunn, 61, a member of the New Haven, Conn., Fire Department for 38 years, died in his home in that city on February 1. Fire Marshal Dunn was stricken with a heart attack about a year ago and was granted retirement on July 5, 1949.

Mr. Dunn joined the New Haven Fire Department in March, 1911, as a substitute fireman and received permanent appointment in 1914. In 1919 he was advanced to a Lieutenant and became a Captain one year later. He was named Assistant Chief, a rank equivalent to the present Battalion Chief, in 1925. In 1925 he served briefly as Acting Chief

QUADWAY NOZZLE FACTS WELL WORTH KNOWING

No obstruction in *solid* (*not hollow*) straight stream. 100% full flow as in conventional nozzle tips used for decades.

Dense over-all vapor mist, adjustable from 20 to 160 degree angle. Produced in an instant at a turn of the wrist.

Combination of *dense* fog mist and *solid* straight stream. Also adjustable for water *curtain* in conjunction with *solid* straight stream.

FAMOUS FOR HIDDEN QUALITIES

Study the above chart well. It explains why, year after year, more and more departments are standardizing on "Trumpet" Quadways. It's the one nozzle that gives you complete, finger-tip control in any fire-fighting situation, eliminates costly special-purpose nozzles and saves valuable change-over time.

Switch in an instant from *solid* straight stream to a dense fog mist, or a combination of both. Go from complete shut-off directly to any one of the three. No other nozzle offers such fire-fighting versatility and the same personal protection from smoke and heat.

The Quadway is backed by the same dependability that characterizes all "Trumpet" products and carries the same manufacturer's warranty. Made in all standard sizes and finishes. Applicator attachments available.

HOSE BRASS GOODS WB LINE THE WOOSTER BRASS CO. WOOSTER, OHIO

THE WOOSTER BRASS CO.
WOOSTER OHIO

DISTINCTIVE FIRE FIGHTING EQUIPMENT

of Department prior to the appointment of the late Chief Lawrence E. Reif. He was named Fire Marshal in 1941.

Surviving are his wife, Loretta M. Cavanaugh Dunn; four daughters, Anna Eileen, Mrs. Francis McCarthy, Jane F. and Elizabeth Dunn; two sons, Daniel J. and William L. Dunn, a brother, William J. Dunn, and one grandchild.

He was past exalted ruler of the New Haven Lodge of Elks No. 25, past Grand Knight of Russell Council, Knights of Columbus; a member of the Connecticut State Fire Marshals' Association, and the Connecticut State Firemen's Association.

TOM MAGNER.

Paterson Chief's Aide Dies at Fire

The death of Fireman Walter W. Pit Rethly, aide to Battalion Chief Walter L. Titus, of the Paterson, N. J. Fire Department, from a heart attack, while operating at a fire at 438 Main Street, Paterson on Feb. 20, 1950, brought to six the toll of deaths resulting from fire and collision in that city within 15 days.

The other deaths included a nine-month-old baby from smoke poisoning at a one alarm fire on Feb. 14; a 45-year-old woman who succumbed to burns in a two-alarm fire on Feb. 17; a 60-year-old man, the victim of smoke poisoning during a one-alarm fire on Feb. 12; a 45-year-old woman who smoked in bed, with fatal results at a Paterson hotel Feb. 5, and a 63-year-old man who was killed by a collision between a Paterson pumper and a bus on Feb. 10th.

RICHARD M. ADELMAN.

Persons in the News

Paterson Captains Promoted

Captains John Craig of Ladder 2 and Frank Dowdall, Supervisor of Combustibles, of the Paterson, N. J. Fire Department, were promoted to Battalion Chiefs Jan. 1, 1950. Captain Craig entered the Department in August, 1927; Captain Dowdall joined in October, 1913.

RICHARD ADELMAN.

Retiring Chief Simmler Feted

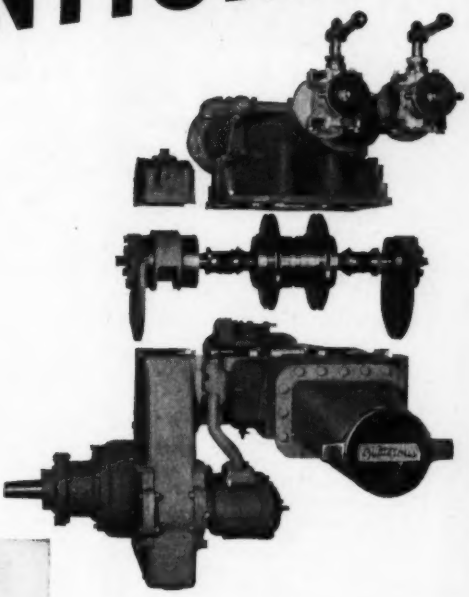
Members of the Box 1776 Association, Philadelphia, Pa., organization of fire buffs, tendered a testimonial dinner on March 1, 1950 to Deputy Chief William Simmler of the Bureau of Fire, that city who recently retired from service. The dinner was held at Shoyer's Restaurant, and was attended by city and fire department officials, members of the Association and invited guests.

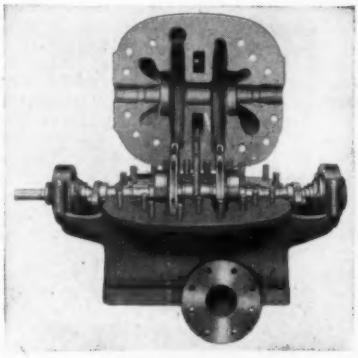
Chief Thomas O'Brien Made Deputy

Battalion Chief Thomas P. O'Brien, who has for some time headed the Bureau of Fire Alarm Telegraph of the New York Fire Department as Acting Deputy Chief, was among the twelve Battalion Chiefs recently advanced in rank to Deputy Chief by Fire Commissioner Frank J. Quayle. At the same

ANY SIMILARITY IS

INTENTIONAL!





— Above is shown a WATEROUS two-stage centrifugal pump. For comparison, a typical two-stage industrial centrifugal pump is shown at left.

Industrial pumps are used for continuous day-in and day-out jobs such as water works, boiler feed, mining, refining, etc.

These are the essential features that are common to most multi-stage commercial pumps:

1. The pump housing is in two pieces joined together at a horizontal flange. Impellers, impeller shaft, bearings, wear rings and packing may all be removed as a complete unit.
2. The impeller shaft is supported at each end by ball-bearings located outside of the water zone. These bearings run in oil and they are protected from water, sand, and gravel, by stuffing boxes, flinger rings and oil seals. The flinger rings rotate with the shaft. Any leakage past the stuffing boxes strikes the flinger rings and is thrown out onto the ground rather than entering bearings and gears.

WATEROUS pumps are the only fire pumps that include *all* of these features. They are the product of an organization where high standards of design, materials, and workmanship have been in the forefront for 64 years. WATEROUS pumps are standard on several recognized makes of fire apparatus. Specify WATEROUS on your new fire apparatus!

Write today . . .

for catalog F-247-R, an informative booklet to help you select the right WATEROUS PUMP. . . .

Waterous
DEPENDABLE PUMPS
SINCE 1886

WATEROUS COMPANY
80 EAST FILLMORE AVE.
ST. PAUL 1, MINNESOTA

gets the drop on FIRE

DRENCH DOUBLES WATER SUPPLY SPEEDS ACTION

For faster, more thorough action on fire with less water, add Drench to your water supply.

Makes water wetter! Just a 1% proportion by volume of Drench added to your water supply will double its fire fighting effectiveness. Helps you fight fire faster . . . knock it down . . . and keep it down.

Drench effectively changes the characteristics of water without limiting its use or requiring special equipment. Join the hundreds of fire companies now using Drench. Write for complete details on how you can save on water . . . damage . . . and stand-by protection with Drench.

NATIONAL FOAM SYSTEM, Inc.
West Chester, Pa.

DRENCH

A NATIONAL FOAM PRODUCT

time thirty-seven Captains and forty-five Lieutenants were advanced in rank.

Chief O'Brien is a member of the International Association of Fire Chiefs Committee on Communications and also the Radio Committee of the International Municipal Signal Association.

Captain George Brown Weds

Notice is received of the marriage of Captain George W. M. Brown, United States Army, to Mrs. Dorothy Mattern Herman, on Jan. 31, 1950, in Brooklyn, N. Y. Captain Brown was formerly Chief of the Newburgh, N. Y. Fire Department.

NBC Radio Program to Glorify Fire Service

A salute to America's firefighters will be broadcast over the NBC Network on Wednesday, March 22, on the "This is Your Life" program with Ralph Edwards, sponsored by Philip Morris. The program goes on the air at 9 P.M. EST, 8 P.M. CST and 7 P.M. RMT (Pacific Coast).

"This is Your Life, Leo J. Urbanski, Chief of the Fire Department of St. Joseph, Missouri—your's, like that of thousands of other firemen in America, is a life courageously dedicated to public service—a life of which your fellow citizens—of which America itself, is proud." With these words, Ralph Edwards m.c. of the N.B.C. program, opens the tribute to the fire service, in the name of Chief Urbanski, who was selected as a typical fire chief for the occasion, to tell about his fifty years activities as a fire fighter. On the program also will be Fire Chief John Alderson, of Los Angeles, First Vice President of the International Association of Fire Chiefs.

To induce Chief Urbanski to make the trip from St. Joseph to Los Angeles, where the program is broadcast, without revealing the plans of "This is Your Life" took a bit of doing and called for some strategy on the part of Ralph Edwards and his staff. It was finally accomplished through the connivance of the American-LaFrance-Foamite Corporation of Elmira, N. Y., which willingly lent itself to the worthy deception.

Near closing time, Friday, February 10th, the Company received a telephone call from Mort Lewis of "This is Your Life" studio in Hollywood urging that the Company send Chief Urbanski to Los Angeles, ostensibly to "look over some new Alfco fire apparatus, and, unknown to the Chief, at the expense of the "This is Your Life" program, sponsored by Philip Morris.

This was the only plausible excuse, pleaded the studio, which would tempt Chief Urbanski to leave his home port of St. Joseph, particularly so because most of the fire fighting equipment in the St. Joseph Fire Department is American La-France.

Mr. Lewis and the studio were correct. Following a quick exchange of telegrams and telephone calls, Chief Urbanski somewhat dazed, was on his way to Los Angeles via airliner. Once in that City the Chief was "entirely surrounded by studio" (and, we suspect shepherded also by Chief John Alderson who was in on the secret), during which time the program was tape recorded, for the broadcast on the 22nd.

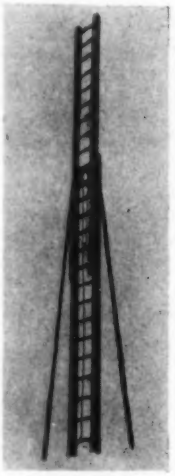
Notices of the impending broadcast have been sent to all members of the I.A.F.C. and released through the nationwide facilities of the NBC network and Philip Morris.

News of the Manufacturers

(*Continued from page* 202)

Duo-Safety Ladder Corp. Develops New Fire Ladder Line

Duo-Safety Ladder Corporation, Oshkosh, Wisconsin has recently announced the addition of a new fire ladder series to its present line of all-aluminum fire ladders.



New Duo-Safety Aluminum Fire Ladder

The new ladders, designated as the 800-A series, feature the same all-aluminum channel rail construction as the 700-A Series, but uses a heavier rail... 1¼" x 3¼" as compared to 1¼" x 2¾".

The manufacturer states that the new line is not a substitute for either of the present series, but is designed to fill the gap in both price and performance between the two older lines. It is also claimed that the 800-A will give much more satisfactory service than solid side wood ladders.

Series 800-A is manufactured in two and three section extension ladders in sizes 30, 35 and 40 feet, and in roof and wall ladders in sizes from 14 to 25 feet.

Complete information, literature and prices may be obtained by writing directly to Duo-Safety Ladder Corp., 811 Ninth St., Oshkosh, Wisconsin.

Ahrens-Fox Ownership Changes

Announcement has been made that the Ahrens-Fox Fire Engine Corp. has been bought by the Cleveland Automatic Machine Co., and will henceforth operate as the Ahrens-Fox Division of that organization.

Harold LeBlond, who formerly headed the Ahrens-Fox Corp., is President of the Cleveland company.

Ahrens-Fox, remaining under the same general management and with no interruption in the manufacture of fire engines and parts under the new ownership, continues in the present plant at 4932 Beech Street, Cincinnati, which is owned and operated by the Cleveland company.

Manila's War-Damaged Fire Communications Replaced

Manila's completely bombed-out fire alarm system has been replaced with a $500,000 installation, one of the most modern and complete outside of the United States according to the Gamewell Co. of Newton Upper Falls.

This marks the company's biggest single post-war export order, Frederick B. Philbrick, president, said. The ship-

ment included 600 fire alarm boxes and equipment for a manually-operated central station and 14 engine stations. Each of the latter receives an alarm simultaneously. The old Gamewell system, originally installed in 1903, had only 185 fire alarm boxes. Each box can send its emergency signal under extremely adverse conditions. Neither a broken wire nor a short circuit stops transmission of the coded message.

John Maloney Leaves Pyrene

John P. Maloney who has been with the Pyrene Mfg. Co., Newark, N. J., for 38 years, largely in sales engineering and promotion capacities, severed his connection with the Company on March 1, 1950. His future plans are unannounced, except that he will vacation in Florida until early April.

In his long period with Pyrene, John Maloney has made an army of friends who will wish him well in whatever the future may hold. His home address will be 209 Prospect St., East Orange, N. J.

Callahan Fire Finder System

The Callahan Fire Finder Co., 36 North Cleveland St., Memphis, Tenn., has developed what it terms the Fire Finder System of fire detection for hotels, warehouses, hospitals, ships and other type occupancies. The device operates to warn building personnel of a fire and gives its location to permit early attack on the fire.

The heart of the System is a special Taylor Mercury-in-glass Electric Contact Thermometer which actuates the alarm system. The System consists of the electrical contact thermometer as the primary element, an audible alarm, a wiring system and a central signal board.

Thermometers are located on the ceilor walls of the space to be protected and are electrically wired to an indicating signal light and an audible alarm on a central signal board, located where it can be under constant observation. On larger installations several thermometers are combined into a common circuit and connected to a common signal light at the central signal board.

In failure of normal power supply, the Fire Finder switches automatically over to self-contained dry cell batteries and continues to operate. The alarm is continuous and the control board continues to indicate the location of the fire, while a guide-alarm buzzer also operates continuously.

Mecklenburg County Drives for County Network

Sponsored by the Farmer's Mutual Fire Insurance Co., of Mecklenburg County, N. C., efforts are being made to organize the County fire departments on a net work basis for improved mutual aid and fire fighting operations. The Charlotte, N. C., Junior Chamber of Commerce is lending its weight to the movement.

Plans, which were recently discussed at a mass meeting held in the county commissioners' rooms, endorsed the organizing of volunteer fire companies in areas now not protected and of making fullest possible use of the Charlotte Fire Department and other existing forces.

D. G. SPENCER.

Fire fighting efficiency has been increased by the use of mobile 2-way radio in dispatching equipment. Ward Products Corporation is proud of America's heroic fire fighters.

And we are proud of the part Ward antennae play in the transmission and reception of messages when seconds saved mean lives and dollars.

Most fire companies rely on Ward aerials because they are ruggedly constructed to withstand the abuse to which they are subjected.

Ward whip rod aerials are made of a special alloy to provide the greatest possible durability and resilience.

Model SPP-3 is a non-rusting alloy swivel base for mounting at any point desired.

Model SPP-3A is a shock mounting spring for fullest protection against impact damage.

Model SPP-3B is an 84½" stainless steel whip rod, shown here attached to Model SPP-3 swivel base and Model SPP-3A shock mounting spring.

WARD World's Finest Aerials

Ward is the largest and oldest exclusive maker of auto radio and television aerials.

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NIP BRUSH FIRES IN THE BUD WITH A HALE FZZ PORTABLE!

Fire fighters are "run ragged" during the Spring months with brush and field fires . . . and in hundreds of communities they have found a Hale FZZ Portable Pumping Unit mighty handy in putting such fires out quickly and easily. Picture shows a Hale Type FZZ Portable Pumping Unit fighting a brush fire from a moving truck. The unit can be carried on virtually any type of equipment, making it possible to fight fire while in motion, using a booster tank for source of water.

The FZZ will supply, from draft, 60 U. S. Gallons per minute at 90 lbs. pump pressure; and 150 U. S. Gallons per minute at 30 lbs. It can supply two capable fire streams through 1½" lines, using nozzle tips up to ½".

Ask for a demonstration! Write for folder to:

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

Questions and Answers

Fire Apparatus Requirements of City

To the Editor:

I would appreciate receiving information as to the number of pieces of fire apparatus that a city of 40 square miles in area and 35,000 population, should have.

The city in question is about ten to eleven miles in length, and up to seven miles in width, covering more than 24,623 acres in the town. There are 8,000 families, 7,000 dwellings, 6,000 homes; six hotels with a total of 200 rooms (the largest having 75); one hospital of 160 beds (7 floors); 20 church buildings, 14 school buildings, 600 retail establishments (total retail sales of $25,000,000); 25 manufacturing establishments, plus dozens of lumber, flour, fuel, oil, buildings and construction firms.

The industries employ over 10,000 people currently; there are four theatres (three in operation seating 3,970 patrons, the largest seating 1,866); 185 new buildings in 1948 cost $1,946,025 to build; the area is a jobbing territory for 32,000 people and a trade center of 75,000 people in a radius of 25 miles. The street mileage is about 115 to 120 with about 50 miles paved. There are eight reservoirs with a capacity of 1,849,000,000 gallons of water, 57.1 miles of pipe.

There are only 368 fire hydrants, however, and the water pressure in the central district (the lowest section) is only 92 pounds at the hydrant. This is a pumper city.

There is only one fire station, seriously overcrowded with the total six pieces of fire apparatus, one auxiliary fire alarm truck and a chief's car. Also an ambulance (belonging to a hospital, not the fire department) is stored there. There are only 28 regular paid full-time personnel and 30 call members in the fire department, with only one engine company.

Four of the six pieces of apparatus are obsolete, outdated and antiquated. They are a 50-foot city service ladder truck, 1923 model, which needs replacement more than anything else in the city; one 1,000-gallon triple combination pumper, 1927 model, needing replacement; one 750-gallon triple combination pumper, 1916 model; one 750-gallon triple combination pumper, 1918 model. Both of these latter need relacement very badly. These four pieces of equipment stall and are out of regular service class. They are considered the main part of the fire department, the other two pieces of apparatus (of the total six) being a third class Dodge 1939 500-gallon pumper with an OCD pump and a 1,000-gallon tank truck with a 300-gallon portable pump, 1941 model.

I think that an 85-foot tractor-drawn aerial ladder truck and three new 750 or 1,000-gallon pumpers should replace the four old pieces of equipment; some new fire stations should be provided and the manpower increased to supplement the 28 regulars of a two-platoon system.

L. S. C.

Answer: First, with regard to the age of the fire apparatus units at present in service, all, with the exception of the Dodge and tank uniits, would be considered obsolete.

The National Board of Fire Underwriters has stated that any pumper over fifteen years should be so considered. Any city service truck over twenty years of age should be assumed to be obsolete.

The city service truck is twenty-six years old; the 1,000-gallon pumper, twenty-two years old; the two 750-gallon triple combinations are respectively thirty-one and thirty-three years old.

It looks like the city would have to start from scratch to build up a fire department to receive Underwriters' approval.

An Incident? Or . . . . . a DISASTER!

Callahan Fire Finder

Gives warning in time to avoid costly, dangerous, fires.

Callahan Fire Finder
Detects Fires Promptly
Reports Exact Location
Positive, Dependable Action
Simple, Rugged Construction
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Requires No Maintenance

It is as simple and positive in action as a thermometer. Installed in a hotel or other building, it promptly detects fire . . . rings a master alarm bell, if desired . . . and flashes a signal light on the Central Signal Board, indicating the floor and corridor where fire has broken out. A buzzer guides firemen to the fire, regardless of smoke and confusion.

Continuous Alarm Signal

The Fire Finder signals an alarm *continuously*. Thus, the warning is not overlooked in a moment's inattention, nor may the signal be forgotten in the subsequent confusion. The master alarm keeps ringing, the Central Signal Board continues to indicate the location of the fire, and the guide-alarm buzzer operates continuously.

Tested and Approved

The Callahan Fire Finder has been tested and approved by the Underwriters' Laboratories, Chicago, Illinois, and by the York Research Corporation, Stamford, Connecticut, for the American Hotel Association.

For Further Information Write:

The FIRE SIGNAL SALES COMPANY
36 North Cleveland
Memphis, Tennessee

DISTRIBUTORS: FEW TERRITORIES STILL OPEN!

The "Stanard Schedule for Grading Cities and Towns and Towns with Reference to Their Fire Defenses and Physical Conditions," which is the guide of the National Board of Fire Underwriters for grading cities and towns, states that for cities under 50,000 population the number of pumpers needed is equal to $0.85 + 0.12\,P$, where P is the population in thousands.

For a city of 35,000 population, the number of pumpers needed would be $.12 \times 35 + .85 = 4.2 + .85$, or five pumpers.

The number of ladder trucks required is equal to $1 + .03\,P$, where P is the population in thousands.

$1 + .03 \times 35 = 2.05$, or 2, which is the number of ladder trucks required in a community of this size.

Thus, it looks as if five new pumpers and two ladder trucks would be needed to bring the fire department up to full strength. Of course, makeshift units do not rate as standard pumpers.

Hose Line Pressures

To the Editor:

Pressure is 150 pounds at the pump. It is desired that a workable nozzle pressure be obtained at the tip, using a single line of 2½-inch hose and a pipe equipped with a 1⅜-inch tip). What would be the maximum length of hose possible to use in this layout to obtain the workable nozzle pressure? It is considered that 50 pounds at the tip is workable nozzle pressure.

Using the same problem again, what would be the minimum length of hose possible to use in order to obtain workable nozzle pressure?

I realize that there is, in a manner of speaking, three answers to this problem. One would give the exact number of feet of hose that will provide a nozzle pressure of 50 pounds but, because fire hose is provided in fifty-foot lengths, it is not practical to use this as an answer.

An alternate layout that will give workable nozzle pressure involves less hose and will give more than the 50 pounds nozzle pressure originally mentioned.

Another alternate layout that will give somewhat less than the workable nozzle pressure mentioned is the other extreme.

J. R. W.

Answer: The problem you give is, in our estimation, a poor one to be included in a civil service examination. The answer involves figures which do not mean anything. For example, the shortest length of line that can be used to procure an effective nozzle pressure, employing a 1⅜-inch tip, and an engine pressure of 150 pounds, would be one section. Actually, this would give you 104 pounds nozzle pressure which, while excessive, would still be usable.

But to go back to the solution of the problem itself:

$E.\,P. = N.\,P. \times (1.1 + KL)$

K, for 2½-inch hose and a 1⅜-inch nozzle, is .341.

H & H FIRE APPARATUS

The Biggest and Best Dollars Worth in the Fire Field Today!

Above: A modern 500 g.p.m. pumper for Woodbury Heights, N. J.

Here's the type of job every smaller city and town should own:—500 g.p.m. pumper—2-stage Champion pump—550-gal. tank (oval tank with flush manhole cover for painting and cleaning)—2 electric booster hose reels with 200 ft. of ¾" booster hose with Hardie Fog Gun Nozzles attached—hose bed will take 1500 ft. of 2½" and 750 ft. of 1½"—2 lengths of hard suction hose in hidden tubes opening at rear (no straps or clamps, suction pulls out instantly)—vacuum clutch and controls outside. These fire fighters have large compartments both sides for fire tools. Racks for extinguishers provided. Absolutely the finest job of its kind available—and priced low enough so that any town can own one promptly.

H&H TRUCK TANK CO., INC.

Manufacturers of Fire Tank Trucks and Emergency Apparatus

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BAR-WAY HOSE COUPLINGS

FOR BOOSTER and HIGH PRESSURE FOG LINES

REMOUNTABLE — without the purchase of additional parts; use over and over again

FULL FLOW — no suppression of flow in coupling

HIGH PRESSURE — tested to 3000 lb., 500 lb. pull

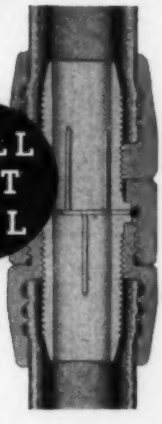
INTERNAL EXPANSION — no shrinkage of hose at coupling

STREAMLINED — free from objectionable projections

ACCURATELY MACHINED — always the same . . . interchangeable

For maximum efficiency, economy and protection in ¾" and 1" sizes, specify Bar-Way couplings attached to hose of proper size.

WILL NOT FAIL



BAR-WAY MFG. CO.

STAMFORD, CONN.

West Coast Representative

W. D. Rigdon

383 Brannan St., San Francisco 7

Then the formula would be:

$150 = 50 \times (1.1 + .341 \times L)$
$3 = 1.1\ 0\ .341 \times L$
$1.9 = .341 \times L$
$L = 1.9 \div .341$
$= 5.57$ lengths of hose or 278.5 feet

This is the actual length of line which would be required to give a nozzle pressure of 50 pounds when the engine pressure is 150 pounds.

The nearest length to this, made up of 50-foot sections, is 250 feet.

With a line of 250 feet in length, the nozzle pressure would be approximately 53.47 pounds.

The standard rules for nozzle sizes and pressures state that for nozzles from 1⅛- to 1¼-inch diameter, pressures of from 50 to 60 pounds will give satisfactory streams, and which can be handled without special appliances. For deluge sets, turret pipes, with 1½-inch and larger nozzles, 60 to 90 pounds pressure is desirable.

Assuming that this line is to be a hand line, handled without special appliances, then the nozzle pressure should not be greater than 60 pounds.

With the stretch 200 feet in length, the nozzle pressure would be 60.8 pounds, which would be near enough to meet specifications for a satisfactory stream.

This latter length, 200 feet, might be considered as the minimum length which could be employed and still have a satisfactory nozzle pressure. The maximum length would, of course, be 278.3 feet and the maximum practical length, 250 feet.

Personally, I believe there should be but one answer to this question, and that is 250 feet. It is the length of line which will give you the nearest to 50 pounds at the nozzle, and is a practical length—made up of 50-foot sections.

Fluid Pressure

To the Editor:

Will you please explain the rule that "Fluid pressure at a point in a fluid at rest is of the same intensity in all directions."

If a standpipe is filled with water and it has one gauge at the top and one at the bottom of the standpipe (height—100 feet), what would be the reading on the two gauges?

If a pumper is connected to the bottom of this standpipe and 120 pounds pressure is applied and then closed off with a valve, what would be the pressure reading at the 100-foot level and at the ground level?

G. C. T.

Answer: To explain the rule "Fluid pressure at a point in a fluid at rest is of the same intensity in all directions," let us consider a point which we will call "A" within a body of water at rest in a container. Suppose that the pressure is not the same in all directions as set forth in the statement of the principle, but that the pressure downward at this point is greater than upward. In this case the water will start moving downward and there will be motion in the water. But the principle specifies "fluid at rest." Thus the pressure at the point must be the same in all directions, for as soon as there is difference in pressure, there is motion.

Now for the specific answer to your two questions.

If a standpipe 100 feet high is filled with water, the gauge at the top will show 0 pounds pressure, while that at the bottom, under 100 feet head, would be in the neighborhood of 43.4 pounds.

Now the pumper is connected to the bottom of the standpipe and 120 pounds pressure is applied; then the gauge at the top will show 76.6 pounds.

This figure is secured by subtracting the static head 43.4 pounds from 120 pounds.

The pressure at the bottom of the standpipe will be 120 pounds.

Kentucky Senate Passes Fireworks Bill

Backed vigorously by all firemen's groups in Kentucky, the fireworks-control bill passed the State Senate by a vote of 33 to 4. Favorable vote on the measure in the lower house was expected by the supporters of the bill, who have conducted a long and uphill fight for its passage.

More than 100 supporters voiced approval at the public hearing in the Senate Chamber on the proposal, Jan. 25th. Speakers included Miss Mary May Wymann, chairman, Fireworks Committee, Kentucky Fire Safety Commission; Fire Chiefs Earl McDaniel, Lexington; Bernard Nielander, Fort Thomas; also Elmer Rothring, Covington Fire Prevention Bureau head; Lt. Herman Bogenschutz, Secy. Northern Kentucky Firemen's Association. Also on hand were Maj. Harold Foster, who heads the Louisville Fire Prevention Bureau and representatives of fire departments.

MYERS HIGH PRESSURE
Fog Fire Pumps and Guns

Myers Bulldozer Fire Pumps
CAPACITIES: 60, 40, 20 and 15 GPM.—PRESSURE: 800 LBS.

Three models—Giant (shown above), Triplex and Duplex. More power, less weight. Myers Fire Pumps are furnished with large, extra-heavy air chamber—All are perfectly balanced. Spring-loaded flat valves eliminate slippage — positive seating. Many other special improvements.

Myers Silver Spray Fog Fire Gun
CAPACITIES: 3½ to 27 GPM.—PRESSURES: 400 to 800 LBS.

Speedier, easier, single-control operation. No recoil. Durable, light-weight. All parts non-corrosive. Guns for long-distance fire fighting also available. All Myers Fire Guns supplied with discs to handle various capacities.

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WATER SYSTEMS · PUMPS · SPRAYERS · HAT TOOLS

Unequalled Dependability . . . Quicker Fire-Control

Fire Departments across the country are steadily changing to Myers high-pressure fog equipment. And it is preference well earned. Myers Bulldozer Fire Pumps have consistently won top honors for unfailing efficiency. They are precision-built; completely self-oiling; fully protected against wear; *proved* unequalled for lasting dependability and thorough atomizing—quicker, easier control of fires. Myers Silver Fog Fire Guns are equally outstanding in features for faster, more effective operation—with least effort and water damage. Full range of Myers Fire Pumps and Guns matches every requirement. Mail coupon for free catalog.

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Dept. R-183, Ashland, Ohio
Send free Fire Pump catalog:

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Annual Reports Received

Edmond, Okla., Issues Excellent Fire Report

The Annual Report of the Edmund, Okla., Fire Department, Lothar A. Smith Chief, for the year 1949, is proof that a comprehensive, informative and interesting statement can be prepared without elaborate printing.

The 20-page-and-cover report, done in offset reproduction of typewritten text, with letterpress cover, tells all about the fire department, lists personnel and equipment (with pictures), includes a statistical record of fires, losses, causes etc. (115 alarms, total loss $6,165), covers attendance at fires, equipment used, drills, fire prevention activities and includes an outline of fire department acomplishments, with recommendations for additional equipment.

* * *

Schenectady Sesquicentennial Report

Celebrating its Sesquicentennial year —1948—the City of Schenectady issued an attractively printed booklet about the municipality, in which is included pages devoted to the progress made in the Fire Department. Contrast between the days of old and today was illustrated by having a figure portraying the spirit of the city's first Mayor, Joseph C. Yates, appropriately garbed, riding the modern fire apparatus, alongside today's Schenectady Fire Chief James J. Higgins.

* * *

Blackwell Department Lists Accomplishments

Chief Geo. E. Gebelein of the Blackwell, Okla., Fire Department, has made of his 1949 Annual Report a piece of good promotion for his department. Except for one page, which lists the fires, losses and departmental statistics, the entire report is a chronological "diary" of the doings of the Blackwell Fire Department. There's a real idea in this report for other communities to follow.

* * *

Sidney Fire District, N.S.W., Reports

During 1948 the Sidney, New South Wales, Australia, Fire District, E. J. Griffiths, Chief Officer, received 8,460 fire calls. Of these, 1,709 were for building fires, 22 ship fires, 102 chimney fires, 3,564 brush and rubbish fires and the balance, automobiles and miscellanous fires. Calls increased 2,901 compared with 1947. Sixty firemen were injured at fires. It is interesting to record, also, that the district is fully equipped with two-way radio.

* * *

Waterbury's Fire Losses Down

Property losses from fire in 1949 in Waterbury, Conn., decreased $21,615 from those of 1948, according to the Annual Report of Fire Marshal Eugene A. Legge, that city. Total losses in 1950 were $285,589. There were 1,322 alarms received of which 69 were false.

* * *

Fire and Losses Down in Detroit

According to the Annual Report of the Fire Prevention Division of Detroit, Mich., Edward W. Hall, Fire Marshal, for the year 1949, the number of alarms responded to by the Department were down 10.1% and fire losses were reduced $2,057,803, or 23.4%, in 1949 from the year previous.

This is the first year since 1938 that fire losses have decreased.

CHIEF D. W. BROSNAN OF THE ALBANY, GA., FIRE DEPARTMENT SAYS:

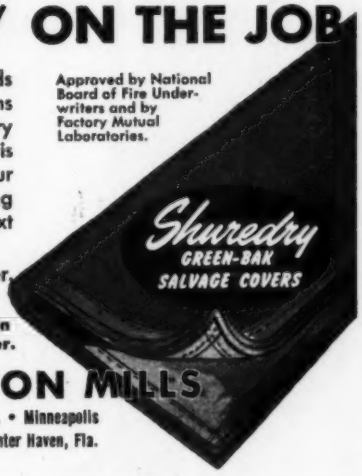
"Had another low fire loss for 1949 of 55¢ per capita, that together with a city that has more than doubled in population in ten years makes it pretty good. Fire prevention, intelligent operation, trained man-power and *salvage* will do the job! It is my hope that other chiefs will take heed and do something about the protection of life and property."

FULTON *Shuredry* ON THE JOB

Shuredry Salvage Crews are saving thousands upon thousands of dollars for fire victims every year. Shuredry Green-Bak—tops every test for water penetration and seepage, is pliable and easy to handle. Equip your salvage crew to do their best job in keeping fire losses *low*. Specify *Shuredry* on your next order for salvage covers.

Order from your fire equipment dealer.

Approved by National Board of Fire Underwriters and by Factory Mutual Laboratories.



Use Fulton Triple-strength Tarps of a 1,000 uses — for garbage truck covers and protection of equipment and supplies exposed to weather.

***Fulton* BAG & COTTON MILLS**

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New Orleans • Los Angeles • New York, 434 Broadway • Winter Haven, Fla.

This emblem, which identifies one of the Nation's most complete lines of department supplies, is known and respected wherever fire fighting equipment is used. It is the mark of thoroughly sound design and extremely high quality.

ELKHART BRASS MANUFACTURING CO. Inc.
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THIS BOOT MAY SAVE YOUR LIFE!

U. S. ROYAL FIREFIGHTER BOOTS

- Extra reinforced ladder shank
- Wide skirted top pulls on or off, FAST
- Extra supple rubber rolls down comfortably
- Rubber yank-hooks
- Boot lining and insole of soft, warm felt
- Super-cushiony insoles
- "Tuftoe" construction
- High-visibility, white, anti-skid, cleated, sole and heel
- Storm King or Short Boot Lengths

U.S. ROYAL FIREFIGHTER COATS

100% waterproof coats of sturdy black rubber with warm, maroon napped lining. Roomy, 2-piece body, raglan shoulders; fly front with instant snap and dee fasteners; roomy outside patch pockets. No stitching in main body; seams vulcanized, outside gum-strapped. Fully vulcanized after making.

US ROYAL FOOTWEAR

UNITED STATES RUBBER COMPANY
Rockefeller Center, New York

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

A "One Horse Power" Fire?

While driving through Maine last summer I noticed a large cloud of smoke. Upon investigating I found a large field being swept by a grass fire. The local volunteer department was just getting the situation under control. I inquired as to the cause of the fire and received the following explanation. A farmer who was raking hay with a horse drawn rake had lighted his pipe and carelessly dropped his match. It landed in the hay caught up by the rake, igniting the hay and causing the farmer to drop his reins and get off the rake. The horse felt the heat around his hindquarters and promptly took off for cooler parts, taking the rake and fire with him, leaving a trail of blazing hay the entire length of the field.

DAVID F. HALE.

* * *

Taps for "Boots O'Leary"

"Boots O'Leary" was a dog. A very special dog who, besides being devoted to his master, Ex-Chief Jos. J. O'Leary of O'Leary's Fire Prevention Co., Inc., was devoted to the fire service. The sort of a dog that is faithful unto death, and about whom eulogies are written. The sort of a dog who typifies the devotion to duty of the Fireman he worshipped.

Boots O'Leary is dead. He died February 13, 1950. But to those who knew him, Boots will never die. His spirit will ride with the Braves. His bark of warning and affection will go echoing down the corridors of Valhalla as long as there is a fire service—and fire dogs!

* * *

Fireman Wrestler Applies the Old "Treatment"

Fireman Rosario Cavallo of the Newton, Mass., Fire Department was once known as "Kid Ryan" among the grunters and groaners of the wrestling ring. All of which accounts for his participation in a somewhat unorthodox "rescue" of 7-year-old Charles Lamb of Newton.

The youngster's bump of curiosity caused him to become trapped in a metal trash can in such a way that only pressure applied to two sides of the barrel would release him.

While two policemen were huffing and puffing in an effort to "unwedge" the stuck, Charles, Fireman Cavallo came along on his day off. Sizing up the situation, Cavallo then swung into action. Doffing his cap and coat, the ex-wrestler straddled the container and gave it the old scizzors squeeze. There was nothing to it. The sides of the barrel spread—and Charles emerged uninjured. And Cavallo went on his way. (Thanks IRVING JOHNSON)

* * *

Hot Off the Ticker

A thrill-seeking Brooklyn high school student confessed to setting 20 fires in the last six months . . . Fred Edgar 25 of Smithville, O., was given a two-to-twenty-year sentence in the Mansfield, O., Reformatory after admitting he started the fire that levelled the American Vitrified Products Co. in Barberton last June. . . . Camden, N. J., bank vault attendants were "burned up" over a fire that started in a pile of 65 canvas sacks containing $13,000 worth of nickels. The blaze, of undetermined origin, burned holes in most of the sacks in the main office of the First Camden National Bank and Trust Co., scattering the coins on the floor. Oh well, nickels aren't worth much these days! . . . In New Brunswick, N. J., 26 members of the Delta Phi, Rutger's fraternity, were ordered to vacate their frat' house for failure to comply with the safety code. Fire Chief Arthur C. Jaques cited the violations. . . . Firemen of Wrightsville, Ga., yearn for a "good, clean, old-fashioned fire." After the town suffered two days of stench when more than 2,000 tons of burning fertilizer sent billows of smoke to drive suffering citizens in search of gas masks. . . . Matches accidentally ignited in a pocket as he slept cost the life of Soo Young, a cook of Victoria, B. C. When Young rolled over while napping, the matches were ignited. Young was suffocated by fumes from the burning mattress and clothing. (Thanks, J. J. Jebins). . . . A new "twist" to the false alarm problem was found in Attleboro, Mass., where investigators of two false alarms sounded two minutes apart discovered tracks of a toy wagon leading from the boxes. They followed the trail to the nearby home of a 3-year-old boy. Patiently they had to explain to him that he couldn't get any music when he climbed on his cart and twisted the handle of the pretty red "radio" on the pole (Thanks W. A. McDonnell). . . . In St. Louis, a fireman was answering an alarm so he didn't bother to stop when his fire truck hit an auto. When the fire was out, the fireman returned to the scene of the crash to survey the damage—and struck another auto on the same block (Thanks Irv. Johnson). . . . Muncie, F. D., had to be called when smoke from a burning roast filled the home of the Muncie, Ind., Star food columnist. . . . Somebody told Fred Watkins, 81, in Minneapolis of a sure cure for eczema. Fred proceeded to concoct the mixture of lard and gunpowder on his stove. He was smoking a cigarette at the time: hot ashes from which dropped in the mixture and caused an explosion which sent Fred to hospital and badly damaged his house. . . . When fire swept three adjoining Harlem houses, a blind musician and his wife tapped their canes against doors as they felt their way down the stairs. Four persons injured; 150 tenants driven to street, but many more would have been injured but for the pair of blind negro musicians. . . . In Wetaskiwin, Alta., the board of trade explained why the city was short on publicity during Fire Prevention Week: all the literature had been destroyed in a warehouse fire. . . . Two Elmira, N. Y., high school girls were hospitalized with facial burns which, police said, were suffered during a high school sorority initiation. They were forced to keep mustard plasters on their faces for about an hour and a half. . . . A Savannah housewife accused her husband of throwing kerosene on her, lighting a match and shouting, "Burn,

damn you, burn". . . . Firemen of Rockford, Ill., nearly broke their backs shoveling to get to the bottom of a fire in a 100,000-bushel government corn pile (Irv. Johnson).

* * *

Radio Taxi Passengers Save Five

In Malone, N. Y., two taxicab passengers and the cab's two-way radio, were credited by firemen with saving a family of five from a fire that swept a home one night recently.

The taxicab passengers, James Wade and Floyd LaBrake, suffered cuts on hands and arms when they broke glass to enter the burning home. The taxicab operator, Len Wilson, used his two-way radio to ask his office to sound a fire alarm.

Mr. and Mrs. William Casey, their daughters Carol and Mary Ella, and a daughter-in-law, Mrs. Daniel Casey, fled the house after being aroused by the taxi's occupants.

The two men told firemen they saw flames shooting from the rear of the structure as they drove by in the cab whereup they stopped and went to work, while the cabbie made good use of his radiophone.

Fire fighters reported the downstairs rooms were gutted by fire and the entire house damaged by smoke and flames. It is problematical if the occupants would have escaped alive or without serious injury, but for the radiocab warning.

Thanks RAYMOND LEE

Bridgeport Adds Inspector of Combustibles

Establishment of the post of Inspector of Combustibles in connection with the safety and fire prevention program of the Bridgeport, Conn., Fire Department, was made effective on March 1, when the Board of Fire Commissioners in that city assigned Asst. Chief Sylvester E. Jennings to the new office. With the shifting of Asst. Chief Jennings from fire fighting duties, Capt. Jerome C. Barrett of Engine 3, was advanced to an assistant chief's rank.

Chief Jennings will operate under and be directly responsible to the Fire Marshal, Chief Martin J. Hayden, and his first assignment is to make a complete inspection of all City-owned buildings in Bridgeport and where required, order better methods of fire protection.

TOM MAGNER.

Aerial Truck in Unusual Accident

Three people were injured in Paterson, N. J., on December 31, 1949, when an aerial truck went out of control.

The mishap occurred at 2:00 P.M. while Truck Number 2 was responding to a second alarm at 104 Cedar Street. As the apparatus turned a corner, while responding, the tiller wheel locked, swinging the truck toward the curb, where it struck a parked car. Three people suffered abrasions and other minor injuries when they fell while trying to get away from the oncoming truck. None of the men aboard the apparatus was injured. As soon as the accident was reported, Truck No. 3 was special-called to the fire, which badly damaged two dwellings at 102 and 104 Cedar Streets.

RICHARD ADELMAN.

Champion Portable Pumpers

DARLEY ENGINEERING BRINGS YOU MORE WATER and HIGHER PRESSURES with NEW LIGHTWEIGHT PORTABLES

$99 Model No. 1½AE

In designing these Pumpers Darley engineers have blended the power requirements of the Champion Centrifugal pumps with the power and speed characteristics of the Briggs and Stratton gasoline engines.

Automatic Primer.

Champion Portable Pumpers, being centrifugals, will handle without injury, water with sand, dirt and gravel content.

Model No. 1½AE—Weight 57 lbs. Dimensions: width 12 inches, length 16¾ inches, height 16 inches.
Capacity up to 40 gallons per minute. Pressures up to 75 lbs.

Model No. 4AE—Weight 115 lbs. Dimensions: width 18½ inches, length 19 inches, height 20 inches.
Capacity up to 200 gallons per minute. Pressures up to 75 lbs.

Model No. 7AE—Weight 150 lbs. Dimensions: width 19 inches, length 21 inches, height 22 inches.
Capacity up to 300 gallons per minute. Pressures up to 80 lbs.

Write for specifications and low prices on the complete 1950 line of Champion Portables.

Write TODAY for New 100-Page Catalog of Fire Equipment

W. S. DARLEY & CO.

ESTABLISHED 1908 — CHICAGO 12, ILLINOIS

FOR FIREMEN IN EVERY LOCALITY!

"THE SCIENCE AND TECHNIQUE OF

FIRE

PREVENTION, PROTECTION AND EXTINGUISHMENT"

A comprehensive course covering every phase of these topics interestingly presented in correspondence form. Fire-fighters, regardless of where they serve, may now attain greater proficiency and professional knowledge in the privacy of their homes and at their own convenience. While many consider it invaluable for promotional purposes, it is of definite everyday practical benefit to all Firemen.

37 LESSONS AND 42 WRITTEN EXAMINATIONS

Each examination is rated and returned with individualized comments and constructive suggestions by the examiner, together with model answers.

Prepared and Conducted Under the Direct Personal Supervision of

HAROLD J. BURKE, Chief,

New York City Fire Dept. (Retired); Captain, U. S. Naval Reserve; in charge Fire Damage Control, U. S. Fleets, World War II

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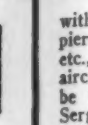
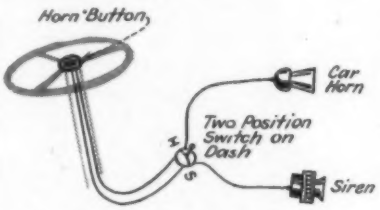
Short Cuts and Gadgets



AN ELECTRICAL GADGET

Here's a suggestion from Lieut. J. E. Haley, Engine 9, Utica Fire Department, which we pass along for what it may be worth. We haven't tried out the lieutenant's "short cut" and can't vouch for it, but it sounds interesting, and we would be happy to hear from our readers what they think of it.



Lieut. Haley writes: It was a rather pleasant surprise to see that my contribution to your department had been accepted and published. It being my first effort and being successful, I thought I would send in another idea which might appeal to the volunteer chief.

In driving to a fire it is rather unhandy to operate the accelerator and separate siren button at the same time. Why not install a 2-position switch on the dash of the car, wiring the horn button to this switch from which one position will operate the siren and in the other position the horn button operates the regular horn? In this way a glance at the switch will determine if the regular horn or siren is connected to the regular horn button on the steering wheel. It is much more convenient to lean on this button when necessary than searching for the special button with the toe on the floorboards of the car.

Above is the way he would wire it up.

* * *

CULVER CITY DRAMATIZES FIRE PREVENTION

The Culver City, Cal., Fire Prevention Bureau of that city's Fire Department, John A. Kearney, Chief, is currently using a colorful "Fire Prevention Helmet" in its clean-up campaign and other drives to reduce fires and fire losses.

Chief Kearney reports that in making the helmet the relationship between Fire and other City Departments has been stressed. The cut-out "gadget" which is printed in red and black on one side, is sufficiently eye-catching and the text sufficiently thought-provoking to create interest and gain widespread favorable action. Chief Kearney hopes that others who read about this idea in FIRE ENGINEERING will "go and do likewise."

* * *

PHONE DEVICE CALLS FIREMEN

A robot watchman has been developed by a Cleveland, Ohio, inventor which it is claimed will enable a telephone to dial firemen or policemen for aid without manual operation.

The inventor, H. J. Rand, who already has an automatic washer and an electric shaver to his credit, now introduces the robot watchman. Without any human aid it works like this: Say a fire breaks out in the house. When the heat reaches 160 degrees a thermostat sets off the gadget. Automatically the phone dials the fire department. When the fire alarm headquarters answers, a record starts and a voice advises of the blaze.

The "watchman even allows for mistakes in dialing, it is said. If it rings the wrong number, it tells the answerer to phone the fire department.

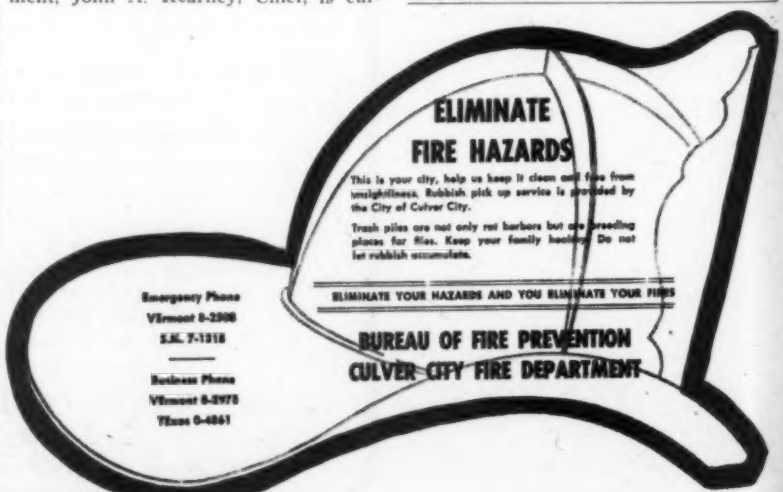
Rand's engineers report the watchman should be ready for production by about the first of the year.

* * *

READER DISAGREES ON BAYONET NOZZLE

We have a letter from Reader Earl Paris of the Urbana, Ill., Fire Department which explains itself. He writes:

"In the January issue of FIRE ENGINEERING I read an article that I don't agree with. It was on the *"Short Cuts & Gadgets"* page. It tells about a nozzle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with a sharp, extended pipe designed to pierce cowlings, wing, engine nacelles, etc., to reach inaccessible areas inside aircraft. Said nozzle was supposed to be the innovation of three Air Force Sergeants.

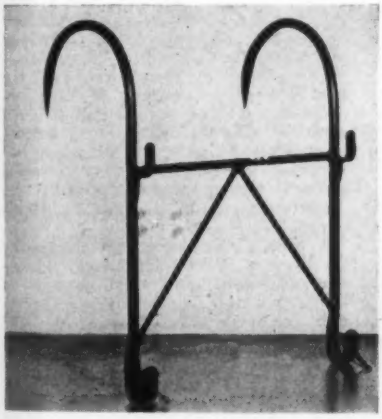
"I was NCO in charge of a crash fire department at Batista Field, Cuba, in 1944. At that time I had a high pressure fog truck equipped with Hardie Fire Gun Nozzles. Therefore I can hardly agree with the Caribbean Air Command that those Sergeants were the ones to develop it. If I'm wrong I'll gladly stand corrected."

Perhaps some of our other readers may be able to shed further light on these early "bayonet" H.P. fog nozzles?

* * *

MAKES ANY STRAIGHT LADDER A "ROOF" LADDER

Following a series of church fires in Sioux City, Ia., which gave firemen plenty of trouble in laddering the long, steep slopes of church roofs, Fire Chief Charles Kuhl of that Department got out his pencil and paper and did some figuring to see if some sort of ladder hook could not be devised that could be applied to or mounted on any straight ladder to convert it into a roof ladder.



The outcome is the device illustrated herein which reaches this Journal from Chief Kuhl via Contributor Robert Byrus of Iowa State College.

The roof hook consists of two tool steel bars 2' ½" long, having curved "goose necks" or hooks at one end, with the other ends flattened and bent upward, as shown in the illustration. These two bars are fastened together by three steel bar braces as shown. The distance between side bars (or hooks) is 1' 5½" (between cotter-pin holes in each lower turned-up hook.) The horizontal brace is ⅝"; the diagonal braces each of ⅜" material.

These cross members are pierced for cotter-pins as shown. The two flattened hooks on the main members each are fitted with cotter pins to fasten in the ladder rungs.

At the upper part of each hooked rod, 1', 1⅞" from the bottom hook, is a ¾ x ½" strap 'hook' welded on each side rod. These are pointed up similar to the two lower hooks on the same rods. They provide an additional support for the ladder rungs.

With this device, it is a simple matter to convert the longest straight ladder to a roof ladder, according to Brother Byrus.

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For Practical Discussion of Current Fire Department and Fire Management Problems

FLOOR FURNACE TROUBLES

THE discussion in this Round Table is a continuation of that which appeared in the February issue of FIRE ENGINEERING on floor furnace troubles.

The generous response from our readers made it necessary to carry the discussion over to this issue.

Readers are invited to send in their comments on this subject. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Topic

Joseph A. Kirby, Chief, Dayton, Ohio: We have experienced very little difficulty with floor furnaces. A few are being installed in and around Dayton, confined mostly to the housing projects. Our Heating Inspector requires that a clearance of three feet be maintained around such heaters and that the installation be made above grade, or when a pit is necessary that provisions for drainage from the pit be made prior to the time of installation. New installations are inspected under a permit system, issued by the Division of Building Inspection with a Heating Inspector from that division making an inspection of all installations.

Louis J. Mosher, Chief, Elmira, N. Y.: We have not had any trouble with floor furnaces. We try to follow the requirements of the National Board of Fire Underwriters in this matter. This comes under our Fire Prevention Bureau and is enforced by the Fire Marshal. We do not have a city ordinance covering this subject.

James J. Sweeney, Jr., Fire Marshal, Oakland, Calif.: At the moment we are experiencing the same trouble that you mention in the question. Our plumbing department has attempted to remedy this situation by selecting the specific locations for pits and by having pits of concrete built to protect these units against flooding. However, this has not been entirely satisfactory, and they are still seeking the proper answer to the problem.

J. E. Brennan, Chief, Cumberland, Md.: We have not experienced any trouble in recent years with floor furnaces due to heavy rains, ground seepage or backing up of sewers. Fire department inspectors see that all burners are installed according to the Standards of the National Board of Fire Underwriters.

We have no regulations governing the placement of units about the point where accumulation of water might affect them.

Earl R. McDaniel, Chief, Lexington, Ky.: We have had quite a bit of trouble with water in basements this year. There was 16 inches of rain during the month of January and at this writing it is still raining.

After water began rising in basements, we had several radio spot announcements and newspaper publicity, for people to cut off their gas appliances in basements if water was flooding them. We were quite worried for a couple of days, but we were fortunate and did not have any accidents.

We are advocating the installation of water tight shields fastened to underside of floor with air vents near top, and intend to write into the city building code regulations covering this or something better if found.

City building inspection and the Fire Prevention Bureau of Fire Department enforce regulations.

Joseph W. Burke, Chief, Rock Island, Ill.: During the heavy rains last August, we had several basements in the business section of town flooded. Fire department pumpers and portable pumps were used.

We have regulations governing the installation of flame furnaces. Provisions for sump pumps are included in building code. The building inspector enforces these regulations.

Hugh F. Fisher, Chief, Lansing, Mich.: During the spring of 1947 we experienced a bad flood condition which affected both gas and oil furnaces. However, a constant inspection was main-

HERE IS THE PROBLEM

1. **Have you experienced any trouble in recent years with floor furnaces (both gas and oil fired) due to heavy rains, ground seepage or backing up of sewers, flooding pits beneath the units and extinguishing the pilot lights or fires?**
2. **If such troubles have not been encountered, how have they been avoided?**
3. **Have you regulations governing the installation of flame furnaces of the above types which require placement of units above the point where accumulation of water might affect them?**
4. **Who enforces such regulations?**

tained during this period and furnaces were shut off. Industrials installed pumps and in extreme conditions pumping was supplemented by our own department.

In a few cases this department recommended relocation of boilers. In dwellings shut-off valves have been installed to keep the sewers from backing up.

Regulations require permit and inspection, and are under the jurisdiction of the Fire Prevention Bureau.

Grover Frock, Chief, Springfield, Ohio: We have not had any trouble with gas or oil furnaces, but we had one or two occasions when due to a flash flood one or two coal furnaces were in trouble. They were taken care of by pulling the fire and pumping out the basement.

We have some regulations pertaining to oil and gas furnace installations, but they are taken care of by the building inspection department who have a regular furnace inspector.

Dan P. Donahue, Fire Marshal, Peoria, Ill.: We rent out portable pumps and hose to pump out basements where there is no danger of an explosion. Where an emergency exists, we send a crew out with portable pumps to pump out water, shut off gas, etc.

We usually have a few complaints after a real heavy rain storm.

Furnace installations are under the Smoke Abatement Department; however, they are installed on the basement floor level.

Thomas H. Cotter, Chief, Providence, R. I.: We have not experienced any trouble with floor furnaces. In severe heavy rain storms sump pumps are used to pump out flooded cellars.

No regulations are in effect.

Charles Muirhead, Chief, Danville, Ill.: We have had trouble with only one floor furnace. That was because of improper installation.

We have avoided such troubles by insisting on proper drainage.

We have regulations governing the installation of these furnaces. They are enforced by the Fire Chief and the Building Inspector.

Walter G. Strickfaden, Chief, Columbus, Ohio: The Columbus Fire Department has had no fires caused by the improper installation of floor furnaces, or from water extinguishing the pilot or main burners of these furnaces.

The Columbus Building Department has to issue a permit for the installation of this type furnace as well as all other furnaces, and then affix their sticker on each installation.

If there is any danger of a condition such as you have described arising, no permit is issued. City ordinances give the power of regulation and enforcement on furnaces to the Building Department.

However, the Fire Department may consider a hazard and then act accordingly to prevent loss of life or property.

Nevertheless the final disposition of the matter, whether the installation is proper or not, rests with the furnace inspectors of the Building Department.

Allie A. Feldman, Chief, Denver, Colo.: This department has had little or no trouble with floor furnace installations because in this area it is required that such installations be suspended from floor joists.

We have, however, encountered

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some difficulty with the pit type installation traceable entirely to seepage.

To correct the condition of seepage we attempt a change over from the pit type furnace to a hortizontial unit which is installed over a four-inch slab of concrete. If the pit type heater is continued we insist on the installation of a sump pump. We find, also, that by waterproofing the pit, both sides and bottom, we have overcome much of the seepage problem.

Your third question pertains to regulations governing the installation of flame furnaces and in this respect we may state that at present we are guided by the Standard Warm Air Code. We find this code very elastic. However, we do use judgment as to whether or not the terrain at the point of installation would warrant a pit type furnace, etc. We are now in the process of compiling a Heating Code which, when complete, will cover all known conditions of heating unit installations within this area.

The Heating Division of the City Building Department is charged with duties of enforcement of all heating installations, including high and low pressure boilers.

Oil burner equipment is supervised by the Bureau of Fire Prevention with the cooperation of the Building Department. The Bureau issues permits for the installation of all oil tank storage and oil burning heating equipment installed within the city and final inspection of controls, piping, vents, etc., are made by an inspector from that department.

Close cooperation is maintained between the Heating Department of the City Building Division and Bureau of Fire Prevention on all types of heating installations made in the City of Denver.

Edward Walsh, Chief Engineer, San Francisco, Calif.: We have experienced very little trouble with floor furnaces being flooded due to heavy rains.

Customary local building practices feature high basements under homes and consequently floor furnaces are set usually six or more feet above the ground level.

We have a regulation in our new building code requiring excavation under floor furnaces where they are set close to ground level, to prevent flooding.

Enforcement is by the Bureau of Building Inspection, a branch of the Department of Public Works, where the Fire Department is represented in an advisory capacity.

Henry Kanar, Chief, Hamtramck, Mich.: The Fire Department has not officially received any complaints regarding floor furnaces and apparently there has been but very little trouble in our community with this type of heating apparatus. We have had several reports during the past several years regarding flooded pits in floor furnace installations, but in every case the situation was immediately discovered and proper precautions taken so that no serious consequences resulted.

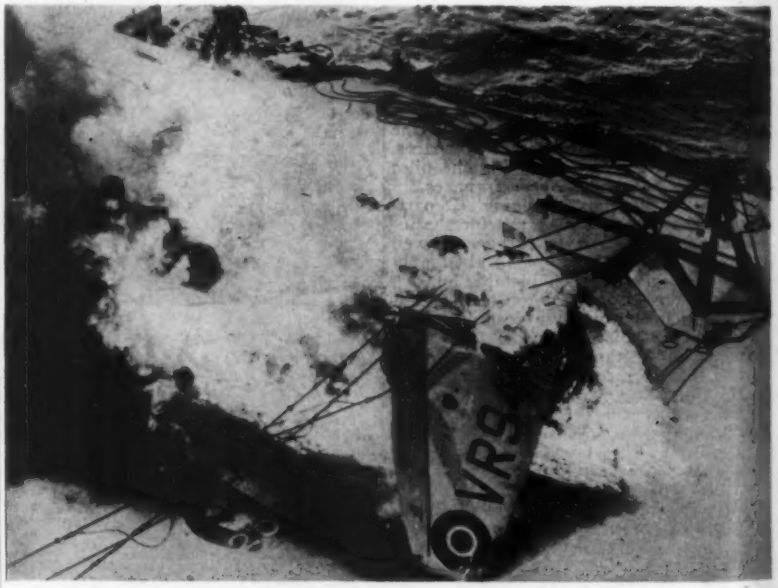
In every case where the difficulty arose, the occupants of the building were very alert to the possible dangers and took prompt action to avoid further damage, so much so that the Fire Department learned of these cases in a round-about way only, no complaints being filed.

We have no regulations governing the installation of these furnaces.

Abel S. Eldridge, Chief, Newport, R. I.: We have had flooded pits in which the oil burning unit has been submerged, but no fire has been caused by this.

We have no regulations which would require the placing of these units above the point where flood water would reach them.

William R. Ferrie, Chief Fire Prevention Bureau, Cleveland, Ohio: Floor fur-



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When a British Sea-Fury, carrier based fighter plane, cracked up when making a carrier landing, trapping the pilot in the blazing cockpit, two Naval Airmen, 2nd Class members of the stand-by crew, Simon Wallis and Peter James McKinnon, literally waded through the flames to rescue the pilot, without protection from hose streams.

naces are not permitted under the building regulations of the City of Cleveland. However, I have had personal experiences with these units and will answer your questions as follows:

Oil or gas fired floor furnaces should have at least 36 inches floor clearance beneath the floor level in buildings which do not have a basement.

A waterproof pit constructed of concrete or concrete block should be provided for the furnace. This pit should come at least a foot above the ground level where it can be checked for moisture and should be properly drained to an outside sewer or drain.

In buildings of this type, proper drainage of the buliding itself stops the accumulation of water around the furnace.

C. J. Eisenbacher, Chief, Tacoma, Wash.: We have had considerable trouble in recent years with the pits of floor furnaces being flooded by heavy rains, ground seepage or backing up of sewers.

We have enacted the National Board building code for furnaces, Section 1203. These regulations are enforced by the Fire Prevention Bureau.

Prior to the time we enacted the above mentioned ordinance, we had a number of floor furnaces which were installed in the summer, flood out in the winter. I tried to incorporate in the ordinance a provision for a cement lined passageway leading from the outside to the appliance, but the furnace men beat me on that provision claiming that it would cost too much. However, since we had more flood outs this winter in sections where flooding was unheard of before, the furnace men have agreed to support me in my requirements for a cement lined passageway. I made some of the owners of furnace companies crawl under houses where water and mud was from six to eighteen inches deep. That's the only way to convince them we need cement lined passageways and waterproof pits around the furnaces.

Emmery A. Greunke, Chief, Appleton, Wis.: I witnessed a fire in a neighboring city which was caused by an oil burning furnace installed under the floor of a dwelling which did not have a basement. The pit under the furnace had filled with water, the sewer and water trenches had settled and were partially filled with water and with about 18 inches of headroom, firemen tried to get under there to get at the fire. The furnace had probably been given little attention because it was so inaccessible.

We have no installations of this kind in the city because the city council immediately passed an ordinance prohibiting the installation of floor furnaces in buildings which do not have basements. A permit must be issued by the city building inspector for any furnace installed in the city.

All local contractors are familiar with the ordinances. Occasionally an outside contractor may start to install a furnace without a permit, but we have had no trouble in enforcing the ordinances.

J. R. Kerr, Captain, Fire Marshal's Office, Portland, Ore.: We have had only one or two instances of trouble with floor furnaces.

The topography of city provides good drainage. Most homes have ce-

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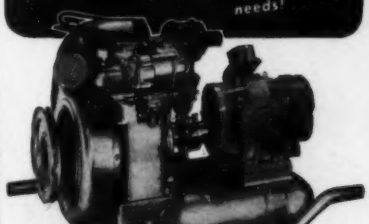

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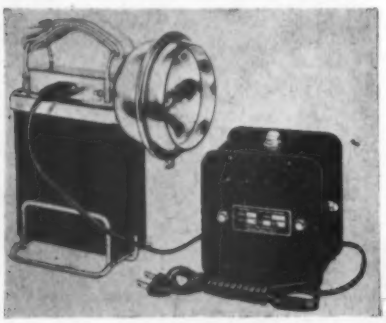

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ment basements. If floor furnaces are used, the pits must be two feet wider than the furnace in all directions and must be at least five feet deep from bottom of floor joists to floor of pit.

The furnace inspector of City Building Division enforces all regulations.

Michael H. Lotz, Chief Engineer, Baltimore, Md.: The installation of oil burners is a matter that rests with the Bureau of Buildings under the building code of the City of Baltimore. The Fire Department, however, has experienced very little trouble in the past with oil burners, and then due to conditions of heavy rains and storm sewers being clogged, causing cellars to be flooded.

Barney J. Houston, Chief, Cincinnati, Ohio: Our records show that we have not experienced trouble of this kind. We believe that our regulations requiring 18 inches minimum clearance between the bottom of the furnace and the ground is the reason that such troubles are avoided. Another requirement is that all floor set furnaces must be equipped with a high air temperature safety cut-off which would automatically shut the furnace off at the predetermined setting if a rug or cloth was placed over the grill.

The enforcing agency is the Department of Smoke; however, violations are noted and ordered to be remedied by fire prevention inspectors. In all cases, written referrals are made to the Department of Smoke by the Fire Prevention Bureau and a smoke inspector also makes an examination of it. It is also mandatory that a permit be obtained before a furnace is installed. This insures an inspection before the furnace is approved for use.

Thomas G. Fisher, Chief, Norwood, Ohio: Years ago, when gas and oil fired furnaces were in their infancy we had trouble of that nature. When heavy rains occurred, some of our cellars were flooded. It was overcome by putting in new sewers, but not until one of our pumpers let us down. Some thought has been given to the fact that water may present a problem to us, due to flooding. When firemen go out inspecting, they are told to mark their inspection sheets as to the condition of the gas shut-off at the curb. While we have no regulations at this time regarding flame furnaces of the type described in the question, I believe that if we had any trouble, I would recommend that a float be installed to shut the gas off automatically.

Roscoe A. McKinney, Chief, Indianapolis, Ind.: We have never had any trouble because every job that is installed in this city must have a permit for same. The furnace is not put into service until it is inspected by an inspector from the Building Department. All installations are made in such a position as to avoid any of the above trouble.

Fred A. Steffens, Chief, East Cleveland, Ohio: We have never experienced any trouble in the past with floor furnaces due to heavy rains, seepage or any sort of sewer trouble. We have sufficient grade on all our streets to carry off heavy rains and flooding conditions are very rare in our city.

There are no regulations governing the installation of flame furnaces and no permits are necessary. We do insist that the units be approved by the American Gas Association and the National Board of Fire Underwriters.

Installation and inspection is covered by the building inspector.

Alex Andrzejewski, Chief, South Bend, Ind.: We haven't as yet had any trouble with this type of furnace. This may be due in part to the fact that until recently we did not have many of these heating plants.

However, recently they have been installing this type in the lower cost homes. We have no special regulations governing installation other than the requirements for ordinary flame furnaces as required by our building code. The city heating inspector enforces these regulations as defined in this code and upon receipt of your letter we asked him to pay particular attention to this hazard.

John C. Long, Chief, Danville, Va.: We have never had such trouble. All such furnaces have to be installed above the point where accumulation of water might affect them. These regulations are enforced by the building inspector.

P. J. Daly, Chief, Toledo, Ohio: We do not allow the installation of a floor furnace in a basement. If there is a basement in the house, a standard furnace must be installed.

At the present time, we have an ordinance governing the installation of warm air furnaces. However, at this particular time, there is an ordinance pending in Council governing

Paoli Firemen Display Style Changes in Apparatus

The above photograph shows a 29-year evolution in fire apparatus. The large unit is one recently put in service by the Paoli Fire Company, of Paoli, Pa. This new Ford F-8 is equipped with a 200 g.p.m. pump; the tank carries 542 gallons of water. The unit carries all the necessary first aid fire fighting equipment in addition to 1000 feet of 1½-inch hose. The 1920 Ford is the property of Harry W. Annear, of Malvern, Pa. (which lies two miles west of Paoli). It was originally built by the Waterous Company, of St. Paul, Minn., in 1920, and has a capacity of over 250 g.p.m.

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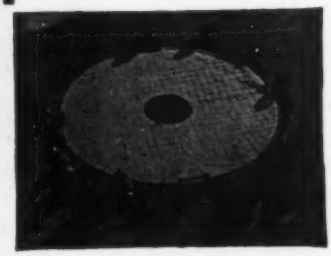

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HERE IS THE PROBLEM FOR THE NEXT ISSUE

1. Have you had any fires caused by (a) electric blankets; (b) electric heating pads?
2. If so, did they involve any fatalities or injuries?
3. Were the units of unapproved or Underwriters' approved types?
4. Do you consider the widespread use of electric blankets and heating pads as constituting a serious fire and life hazard?
5. What suggestions would you make for controlling such hazard, if you feel it exists?

the installation of all types of furnaces, including gas and oil.

Donald S. Charles, Chief, Charlotte, N. C.: Our experience with floor furnace installations stems from poor maintenance and carburetor and power failures rather than the flooding of pits. These troubles have been avoided to a great extent by inspections at the time of installation.

We do have regulations governing the installation of flame furnaces of the above types which require placement of units above the point where accumulation of water might affect them. These regulations are enforced by our Building Inspection Department.

E. P. Feaster, Chief, Lincoln, Neb.: Fortunately in Lincoln we have had very little trouble from flooding pits and basements that extinguished pilot lights or fires.

Most of our flooding conditions which would back up sewers or flood basements occur in the summer when pilot lights and fires are not burning. Practically all basements in our city have floor drains which take care of the small seepage.

We have no regulations governing the installation of flame furnaces as we do not have a heating ordinance. The Fire Department does have authority to regulate installation that would constitute a fire hazard.

Ira D. Leech, Chief, Decatur, Ill.: There are only a few floor furnaces around this part. We have had no trouble due to rain or sewers, but we have had people letting lint or scraps of paper get into the pit causing smoking conditions.

The Fire prevention officer enforces regulations governing installation of these furnaces.

G. Napoleon Guevin, Chief, Manchester, N. H.: I am glad to state that we have never encountered any difficulties with the problem stated above.

I do not know of any present regulations concerning this problem. However, the City of Manchester is compiling a new building code and reference to this problem may be included, as the Building Department supervises the installation of furnaces and boilers. Our inspection is restricted to oil burners and fuel tank installations, only.

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stricted to oil burners and fuel tank installations, only.

Marvin K. Evans, Chief, Lynchburg, Va.: The Building Department requires all persons installing floor furnaces to trench 24 inches below to provide drainage. The buliding inspector enforces this regulation.

William D. Thomas, Chief, Binghamton, N. Y.: As yet we haven't experienced any trouble of this kind. We are not troubled with sewers backing up, forcing water or sewage up through cellar drains.

At present we haven't any regulations governing the installation of these units. However, at the present time they are being considered by the mayor, who is recommending to the Council that an amendment be added to the building and plumbing code, which will help to prevent this situation.

Such regulation would be enforced by the Bureau of Buildings.

Edward E. Wischer, Chief, Milwaukee, Wis.: I have never experienced a condition such as you mention, although there may have been some isolated cases in our city of which I have no knowledge.

Before such equipment is installed a permit must be obtained from the inspector of buildings and each installation must be made in accordance with the requirements and regulations of the code.

The inspector of buildings enforces all regulations and code requirements.

Blasting Out a Fire

When an oil well fire in Elk City, Okla., apparently could not be extinguished by other means last January, Myron M. Kinley, famed Houston oil well firefighter used 200 lbs. of nitroglycerine in an attempt to blast it out, as shown on the front cover of this issue.

Climaxing a four-day struggle, Kinley's crew placed an oil drum holding the 200 lbs. of nitroglycerine at the end of a long, specially constructed boom, which was shoved toward the fire by a bulldozer. The oil drum holding the explosive charge was lined with asbestos to prevent preignition before the explosive could be in position and detonated.

The blast blew a great cloud of smoke and steam into the air and at first it was believed the fire had been 'blown out'—but a few minutes later the blaze started again—reignited by hot metal and flames were roaring 100 ft. into the air. Subsequent tries are reported eventually to have controlled the fire.

Book Shelf

"SOME STUDIES IN CHEMICAL FIRE HAZARDS" by R. J. Douglas and C. E. Thompson, Oklahoma Engineering Station Experiment Publication No. 73, November, 1949, Oklahoma A & M, Stillwater, Okla.

This latest bulletin describes an investigation conducted in the Division of Engineering Research at Oklahoma A & M College to determine if certain combustible solvents or solids when permitted to come in contact with an oxidizing agent, would evolve sufficient heat to cause ignition. A total of 424 tests were made. In 37 contact tests, violent heat reactions were observed and in 27 other contact tests the heat reaction was sufficient to be considered dangerous from the standpoint of fire protection.

The Study should be of interest to all those concerned with chemical fire hazards, single cpoies can be obtained without charge by addressing or request to the Engineering Research Department, Oklahoma A. & M. College, Stillwater, Okla.

Correspondence

How Masks Aid Attack

To the Editor:

At 3:50 in the morning an apartment house let go. It was of three floors and basement. The fire originated on the meter and switchboard in the basement, immediately eliminating all light circuits. The extent of the fire was comparatively inconsequential, it being stopped between the first and second floors, but the entire building, which was fully occupied, was charged with heavy smoke and high concentration of sulphur-dioxide gas from ruptured refrigerator lines.

The occupants were all trapped within their apartments and the corridors were untenable. A second alarm was sounded chiefly for additional manpower. Twenty-two persons were rescued, two were hospitalized, but no one died.

The fire department used 34 masks on 34 firemen—25 of them being M.S.A. 9 chemox. No one without a mask could live within the corridors of the building.

I am fully convinced that without the large number of masks immediately available for our firemen, the rescue of 22 persons could not have been accomplished as completely. Although this fire received little publicity, I am personally convinced that without the masks at least some of the people saved would have been suffocated.

PAXTON MENDELSSOHN
Fire Commissioner, Detroit Fire Department.

L.P. Gas Accident

To the Editor:

I believe an experience which I had about one year ago with a combination of propane-butane mixture was a little more exciting than the article in the December, 1949 FIRE ENGINEERING.

At the time, I was employed as a private contractor for a local L.P. gas concern in this area. On this particular day, I was out with one of their men, on an installation. We were gone for about two hours. Upon our return to the plant, we were informed that a safety relief valve had let go.

Due to the fact that I was not on their payroll, I thought it best to leave for a safer place, but, the persons in charge at the time requested me to see what could be done to stop the gas from escaping.

The entire area was beginning to reek with gas, smells similar to rotton eggs. The plant and buildings were located about ten feet from Route US 6 and about twenty feet from the N.Y.C.R.R. tracks. There were three ten-thousand gallon storage tanks, full at the time; a two and one-half inch pipe led to the outside nearest the R.R. tracks, with the

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Just another type —one of many— made by pioneers in nozzle manufacture.

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relief valve about ten feet above the ground. As I appeared on the scene, a man had a piece of two-inch pipe all ready to hit the relief valve. I then decided it was time for someone to take charge of the situation.

I stopped the man from hitting the valve, ordered all traffic stopped and rerouted and trains halted. I checked to see if the valve was operating, and found same disrupted. I also checked to see if gas could be returned to the tank car at siding, but due to check valves in the lines, this was not practical. I then went back to the relief valve and found the blow-off side was tapped for two-and-one-half-inch pipe.

Then an idea struck me: that if a two-and-a-half-inch X two-inch bushing, plus a two-inch nipple and valve were available, I could shut off the escaping gas. I located some old fittings and valve in the pipe shop. The pressure at the time was about 125 pounds. So, by opening the valve with the nipple and bushing, I was able to screw same into relief valve and then shut off the gate valve.

The job was finished. The relief valve could not be replaced until the tanks were emptied. Also, upon later examination, it was found that the old valve was not made to be used on L.P. Gas. Two men working directly under the flow, were knocked out by the gas. One mistake I made at the time was not in having the occupants of the houses in the vicinity evacuated.

I have often wondered if the above incident may be of value to some others in the same predicament.

Brewster, N. Y. J. C. FURST
Dec. 22, 1949.

Memphis Department Wars on Careless Smoking

(*Continued from page* 201)

paper story on fire prevention, emphasized that the city's victory over fires spells not only honor and glory, but cold dollars and cents saved the city. One menace which the Fire Department is bent on eradicating is the careless bed-smoker who endangers other lives in addition to his own. During 1949 Memphis Fire Department records show dozens of persons were prosecuted in City Court as the Fire Marshall Edgar T. Lovell followed through in the strict enforcement campaign.

The city's no-bed-smoking drive began after the tragic Winecoff Hotel fire in 1946. Since that time the Memphis Fire Department has prosecuted 244 bed-smokers who have paid a total of $11,463 in fines. How many large scale fires, with heavy life loss, have been prevented as a result of this preventive effort can only be conjectured. Chief O'Sullivan is confident, however, that this single detail of the city's continuing Fire Prevention campaign is worth all the time and trouble it costs.

Convention Dates

Mar. 28-31—GREATER NEW YORK SAFETY COUNCIL. Annual meeting, Hotel Statler, New York City. For information contact Headquarters Office, 60 East 42nd Street, New York 17, N. Y.

Apr. 23-25—NEBRASKA FIRE SCHOOL. Annual meeting, Grand Isand, Neb. Director, J. I. Fetters, Asst. State Supervisor, Trade and Industrial Education in charge of Firemen's Training, Lincoln 9, Neb.

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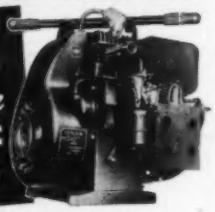

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Convention Dates

May 1-4—NORTHWEST FIRE SCHOOL. Annual meeting, Saint Paul, Minn. Director, Leonard C. Lund, Deputy Commissioner, Insurance Division, Department of Commerce, State Office Building, Saint Paul 1, Minn.

May 4-6—SOUTHWESTERN DIVISION, I.A.F.C. Annual meeting, Port Arthur, Tex. Secretary-Treasurer, Dr. B. J. Barrodale, Houma, La.

May 8-10—FLORIDA FIREMEN'S ASSOCIATION. Annual meeting, Panama City, Fla. Secretary-Treasurer, Chief E. J. Langley, Box 344, Florida State Hospital, Chattahoochie, Fla.

May 8-11—DOMINION FIRE PREVENTION ASSOCIATION and ASSOCIATION OF CANADIAN FIRE MARSHALS. Annual meeting, Quebec, Que. For information contact F. X. Ahern, Deputy Fire Commissioner, Department of Public Works, Parliament Buildings, Quebec, Que.

May 8-12—ARSON INVESTIGATORS' SEMINAR. Annual meeting, Purdue University, Lafayette, Ind. For further information and complete details, contact the Public Safety Institute, Purdue University, Lafayette, Ind.

May 16-19—IOWA FIRE SCHOOL. Annual meeting, Iowa State College, Ames, Ia. Director, Robert C. Byrus, Fire Protection Engineer, Engineering Extension Service, Iowa State College, Ames, Ia.

May 22-24—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Augusta, Ga. Secretary-Treasurer, Chief Walter W. Stephen, Box 908, Anniston, Ala.

June 1-3—OREGON FIRE CHIEFS' ASSOCIATION and OREGON FIRE FIGHTERS' ASSOCIATION. Annual meeting, Salem, Ore. General Chairman, Chief W. P. Roble, Fire Headquarters, Salem, Ore.

June 4-7—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. Annual meeting, Elmira, N. Y. Secretary-Treasurer, Chief Henry F. Drake, Clinton Corners, N. Y.

June 6-8—KENTUCKY FIRE SCHOOL. Annual meeting, University of Kentucky, Lexington, Ky. Chairman, J. L. Thompson, Kentucky Inspection Bureau, Louisville 2, Ky.

June 15-17—ASSOCIATION OF OHIO FIRE FIGHTERS. Annual meeting, Youngstown, Ohio. Secretary-Treasurer, D. F. Hinman, 1187 LaCroix Street, Akron 7, Ohio.

June 20-22—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting, Wentworth Hotel, Portsmouth, N. H. Secretary-Treasurer, Chief John W. O'Hearn, 22 Mt. Auburn Street, Watertown, Mass.

June 22-24—EASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Hotel Marcy, Lake Placid, N. Y. Secretary, Chief Charles E. Clark, Box 271, Wayne, Pa.

June 22-24—MARYLAND STATE ASSOCIATION. Annual meeting, Ocean City, Md. Secretary, B. R. Benson, 303 Bosley Avenue, Towson 4, Md.

July 24-July 28—WEST VIRGINIA FIRE SCHOOL. Annual meeting, Morgantown, W. Va. Director, R. E. Hanna, Jr., Fire Service Extension Schools, School of Mines, West Virginia University, Morgantown, W. Va.

Aug. 19—BALTIMORE COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Hereford, Md. Secretary, Richard T. Nesbit, 8233 Philadelphia Road, Baltimore 6, Md.

Aug. 22-25—IOWA SHORT COURSE FOR FIRE PREVENTION BUREAU PERSONNEL OF PAID FIRE DEPARTMENTS. Annual meeting, Iowa State College, Ames, Ia. Director, Robert C. Byrus, Fire Protection Engineer, Engineering Extension Service, Iowa State College, Ames, Ia.

Sept. 5-8—MARYLAND SHORT COURSE. Annual meeting, University of Maryland, College Park, Md. Director, Chief James W. Just, Fire Service Extension, University of Maryland, College Park, Md.

Sept. 5-8—INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS. Annual meeting, Milwaukee, Wis. Secretary-Treasurer, George J. Richardson, A. F. of L. Building, Washington, D. C.

Sept. 5-8—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual meeting, Victoria, B. C. Secretary-Treasurer, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Sept. 12-15—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS and PACIFIC COAST INTER-MOUNTAIN ASSOCIATION OF FIRE CHIEFS. Annual meeting, San Francisco, Cal. Secretary-Treasurer, I.A.F.C., Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass.

Sept. 18-21—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Hotel Commodore, New York City. Secretary, Irvin Shulsinger, 11 West 42nd Street, New York 18, N. Y.

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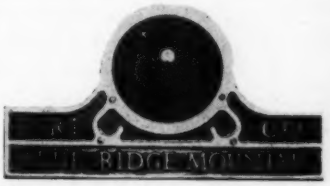

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